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SPACE INVADERS

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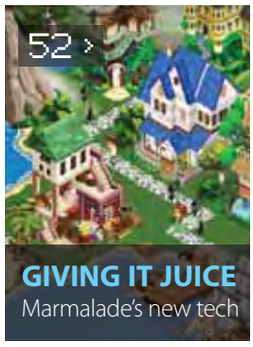
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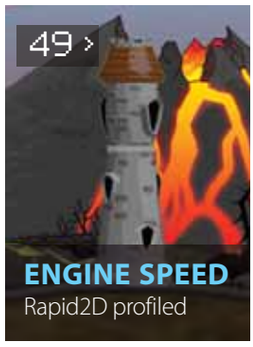
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EDITORIAL

WHAT STOLE THE SHOW?

HAVING MADE IT home from San Francisco in one piece, or something similar, it's time to look back on what GDC meant.

Though a lack of news on the 'Xbox 720' and any reveal of what physical form the PlayStation 4 might take meant consumer journalists may have struggled to get much from the conference, for developers it made for a fascinating show.

The most high-profile discussion, arguably, was consideration of not just sexism in games and in the industry, but also sex, sexuality, race and gender. There's still a way to go, as the IGDA's controversial party proved, but that ethics and politics in the games business were so widely debated across the GDC schedule and conference floor demonstrates that, I believe, we are increasingly a progressively-minded community.

GDC also marked something of a proper arrival for the new wave of 'unconsoles', with Oculus Rift, GameStick and Ouya not just on show at the event, but taking up ample space across the booths of some of the biggest exhibitors.

Elsewhere, free-to-play dominated in many forms from casual to triple-A. There's certainly still many eager to criticise the merits and influence of free, but it felt like this year negativity towards the business model was on the wane. If you're not keen to see free-to-play establish itself, based on its presence at GDC, perhaps you should brace yourself for disappointment.

My highlight, though, was NASA's presence at the show, which you can read about over the page.

Will Freeman
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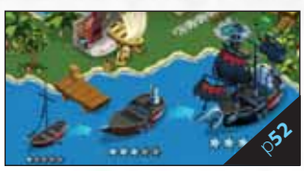
develop iPad

Videos are available within the iPad Edition of **Develop** on iTunes and the Browser-based Digital Edition, which can be accessed at **develop-online.net**



THIS MONTH: Is NASA's 'ATHLETE' robot your future colleague? **Silicon Studio's Yebis 2** Pocket Gems talks porting with Marmalade Juice

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NASA's call to games devs: 'Help us explore space'

The US space agency is looking to work with games developers, and its plans go far beyond public engagement. **Will Freeman** investigates the opportunity for studios and middleware providers

NASA used a motion control device to control its towering hexapod robot, ATHLETE (above), on stage at GDC 2013

THE VAST AMERICAN agency NASA has detailed a plan to work with numerous games developers and technology creators to assist in its exploration of space.

Representatives of NASA took to the stage at the recent GDC to detail their employer's hopes for collaboration with games makers, attracting a standing ovation from a crowd apparently besotted by the idea of contributing to mankind's understanding of the universe's furthest reaches.

And while NASA understands the power of games as a medium for public engagement – the process whereby games are used to enthuse consumers around a particular topic – now it is looking to use the technology and design theory behind games to control robots in space and on the surface of planets. NASA is also open to hiring staff from games studios the world over (*see panel, right*).

Develop caught up with NASA at GDC, and spoke with a pair of its experts from the body's Jet Propulsion Lab, the body behind much of the work constructing, landing and controlling the Curiosity robot, currently found on the surface of Mars. The JPL's foremost concern is the design, construction and operation of 'robotic planetary spacecraft', though it does much other work within NASA's remit.

> ***"There's an art to games' interaction systems, and it's beyond technology. It's that art of design and interaction. We can leverage that too for our work."***
>
> Jeff Norris, NASA

JOINING THE JET SET

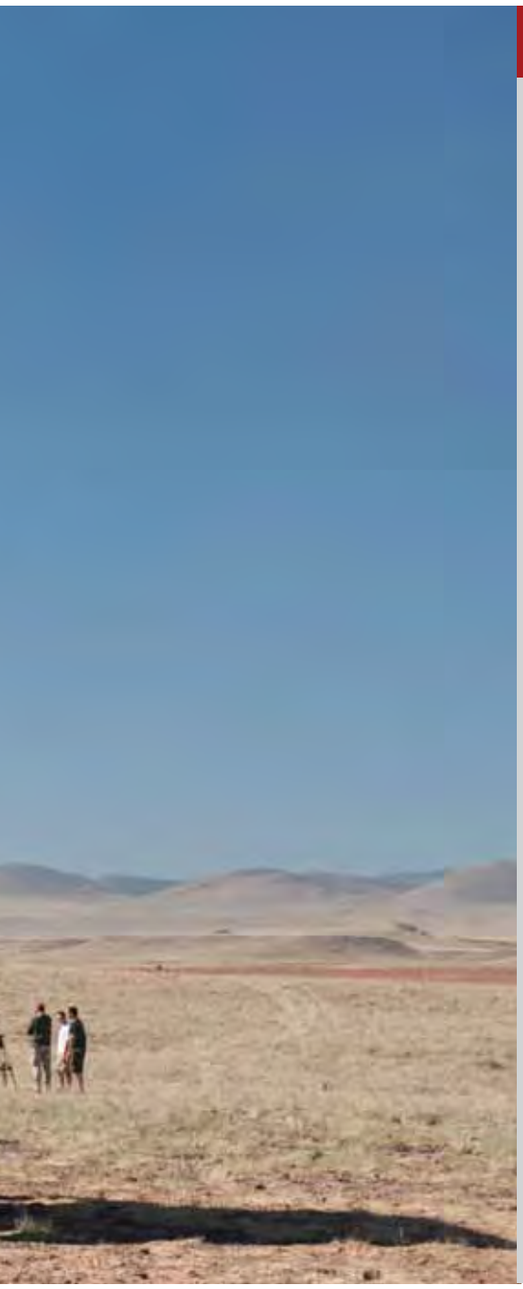
"There are two major roles for games in space exploration," explained Jeff Norris, manager of the Planning and Execution Systems Section at the JPL, talking to *Develop*. "One is as a medium for communication and sharing our missions. Part of NASA's core mission is to share our exploration with the world. Games have turned out to be a very important medium for doing that. But then, of course, the second application is using the gaming technologies themselves to control robots in space exploration."

Already, Norris is at the point where it gets interesting for those in the games industry. NASA really is intent on adopting games tech – proprietary or middleware – for use in its exploration of space, in part due to its increased use of remotely controlled robots and vehicles.

But why, and how, is technology designed for living room entertainment at all relevant to those sending hardware to the stars?

"When we look at gaming technologies we see the results of a lot of careful thought and investment in usability," offered Norris. "Leveraging that investment in usability is a great opportunity for us because we can take those investments and apply them in a domain where, while it is not where they are intended for, they are quite applicable."

Games technology certainly scores well when it comes to usability; the volume of games made – and people making them – means the tech must now be relatively accessible. But what about what each



technology does? It's not immediately apparent why something for animating game characters or lighting levels has a use beyond the confines of Earth's gravity.

REMOTE CONTROL

But consider the task that faces a game's designer, and the role the technology they use serves. Typically they must let the player remotely control a complex character or machine remotely, with UI and computer controls as a means for interaction.

"If you squint at that just right and get far enough away from it and look at it just right it's not actually that different from the task that we face when we're controlling a robot on another planet," said Norris. "Again, there's a complicated machine in a distant environment. It's true that the end results are potentially more profound and potentially more serious when you're dealing with an expensive robot than with a game, which, we agree, is entertainment, and therefore arguably a more trivial endeavor. But it remains that the task and the challenge that the operator is facing has something in common."

UNIVERSAL APPEAL

THOSE KEEN TO hear demonstrable details of NASA's interest in games development should be happy to hear of the agency's plans for hiring from the games industry.

"We're finding great opportunities in our workforce development from the video games industry," explained Jeff Norris, manager of Planning and Execution Systems Section at NASA's Jet Propulsion Laboratory.

"It is because we have these core disciplines that overlap, but it's also because there's this transition from game life to work life, so if a kid grows up using the tools that they're going to be using at work, they're going to be much more effective," added Victor Luo of JPL on a different perspective on gaming's ability to provide NASA with staff. "We want to connect with them through technology as soon as possible. So when you're talking about both game designers and gamers, it links to our work quite directly."

Glance at a technology job posting for work with NASA, and an unrelated games development vacancy on *Develop*'s own jobs board, and the crossover of required skills and keywords is striking. In that context, there's little surprise in NASA's interest in games includes employing developers and middleware experts.

www.jpl.nasa.gov/work

> ***"We're constantly looking for new partnerships, because it's great to discover the devices and technologies that are coming out of this industry."***
>
> Jeff Norris, NASA

And NASA isn't alone in recognising the opportunity. Alexandre Pechev is CEO of inverse kinematics middleware outfit IKinema, which started out life at the Surrey Space Institute. There in Surrey, where satellites are constructed 100 yards away from the offices of UK games developer Lionhead, Pechev created a tool. It was conceived to assist satellites in their targeting of the Earth, but quickly reworked by Pechev to serve the games industry for inverse kinematics. As such, he perfectly understands the technological overlap.

"There is a fair amount of simulation that needs to be done in any space project," stated Pechev. "From AI to physics and kinematics, [it's applicable], for example, for rovers on Mars, humanoids on Mars, construction of probes, robots on space probes, robots on the surfaces of planets and so on. One has to also consider the difference in gravity, and all this needs to be embedded into the simulation phase of the project.

"AI has been extensively developed in the gaming industry and all this can only benefit the space sector."

Pechev also points out that the best game engines also provide an excellent environment for running space simulations.

GROUND CONTROL

For NASA, however, it isn't just a matter of embracing technology used for making games. The way players themselves interface with games is of equal interest to those designing systems for robot control, and, as Norris explains, that logic stems from an admiration of the way video games communicate with their players.

"There's an art to games' interaction systems, and it's beyond technology," offers Norris. "It's that art of design and interaction, and how to teach somebody to do something quickly. We can leverage that too for our work."

"The other point is that these are devices that consumers are quite comfortable with, so they are already trained up to use controllers such as a PlayStation or Xbox controller," added Victor Luo, task lead at NASA's Jet Propulsion Laboratory.

Games controllers and related peripherals certainly appear to fascinate NASA.

In fact, Norris and Luo's use of a Leap Motion UI device on stage at GDC to control a huge 'ATHLETE' robot hundreds of miles away in Pasadena proved the most talked about part of their session. And it demonstrated a point more important than just wowing the assembled crowd.

"We naturally want to make our robotics systems as approachable and easy to control by our engineers as we can, because we want them to be as effective as they can while exploring, so using natural interfaces and things like Kinect or Leap Motion we just feel improves the efficiency and effectiveness of our operators," said Norris. "That's the opportunity we see with such controllers."

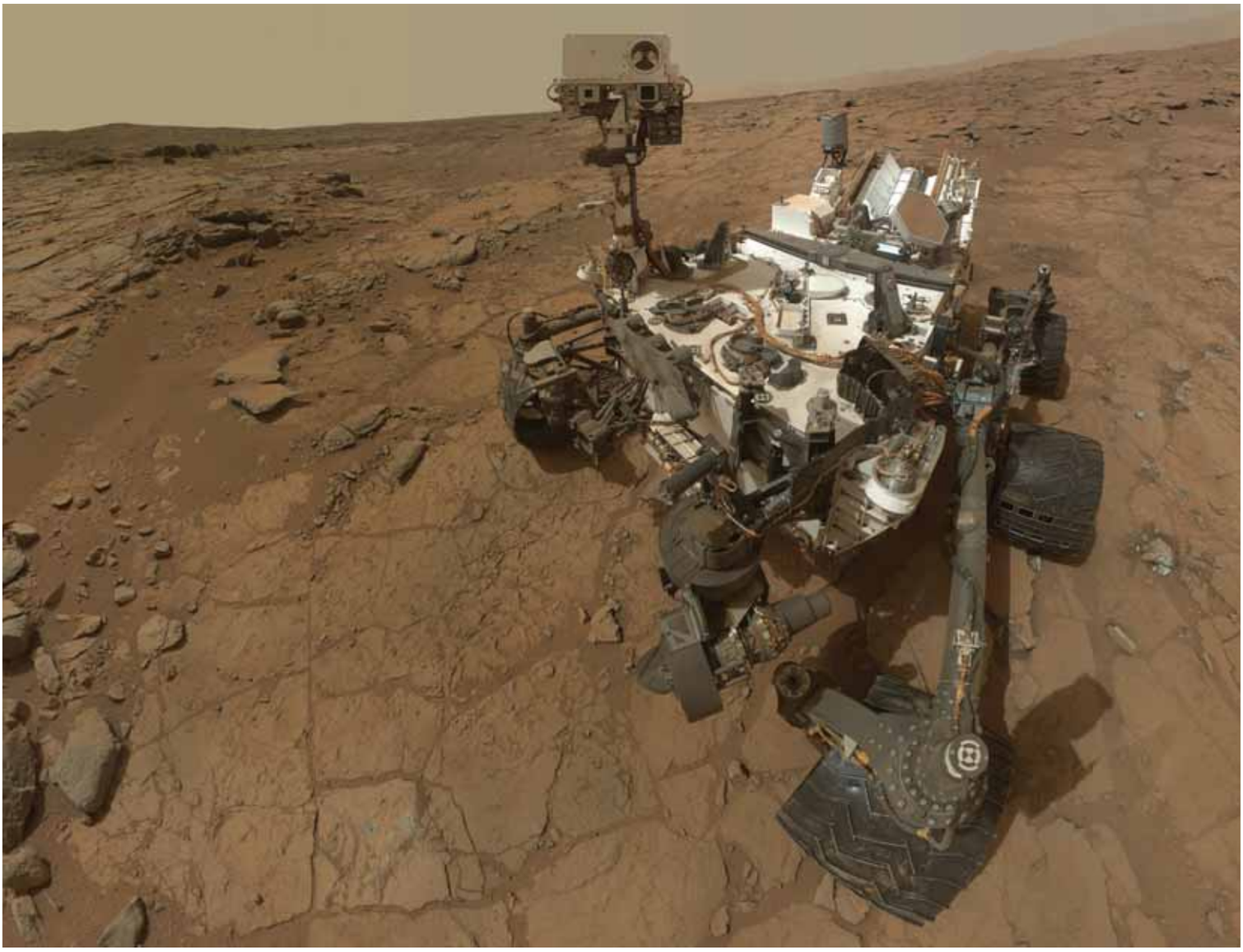
ONE SIMILAR STEP

It's clear, then, that NASA's interest in video games is motivated by technology, be it hardware or software, but there is another reason games development and space exploration make ideal partners, and it's to do with people.

Culturally, games makers and space scientists share many mutual interests, and that includes those beyond being able to quote episodes of *Star Trek: The Next Generation*. According to Norris, both groups share a mindset that makes them ideal working partners.

"Exploration has always been an imaginative exercise. It quite often starts with the words: I wonder," speculated Norris. "I wonder what's beyond that cliff. I wonder what's across that river. That sort of wonder ▶

Top-to-bottom: Jeff Norris and Victor Luo of NASA's Jet Propulsion Laboratory and Alexandre Pechev of IKinema



Software and tech from games companies could be used by NASA to control planetary rovers, such as Mars explorer Curiosity (Above)

aspect is what gives birth to the fictional explored worlds that drive games as well as space exploration. I think there's something in the psyche that brings these things together.

"I don't think it's coincidental. I think that they are at their core aspirationally-motivated things; one sees you go to a place you've never been before physically, while the other lets you experience something you've never been to before virtually."

And more than that, said Norris, many games developers and NASA's staff found their career inspiration in a similar space, that being the living room. As NASA landed a human on the moon as part of the Apollo mission, 600 million watched on TV. Numerous NASA staff point to that day as the moment they decided on their career. A decade later, and consoles were starting to make their way into the same room, inspiring a new generation to consider games making – and even space exploration – as a career.

"The television is an entertainment medium," said Norris, who thinks games themselves might unlock a new generation's interest in the space sector as a career.

"The television was invented to entertain, and wasn't created to explore," he continued. "There's a great example of how an entertainment medium, without doubt, inspired and changed lives and created vocational interest within the people who were watching those broadcasts. I don't think it's hyperbole to suggest that games could play a similar role today."

> ***AI has been extensively developed in the gaming industry and all this can only benefit the space sector.***
>
> Alexandre Pechev, IKinema

There's a parallel line of thought to the idea that games can serve as a medium to explore our understanding of the world around us. *Braid* creator Jonathan Blow and various other academically-minded games makers have mused on the topic before, and it's one NASA readily subscribes to.

"Games can act fundamentally as an experimental tool," agrees Norris. "Why do we explore? We're accomplishing science and asking really hard questions. We asking things like 'how will this substance behave in zero gravity?' Those are the questions scientists on the International Space Station are asking. We're asking questions about the environment of Mars.

"Games, on the other hand, free of the fetters of reality, experiment and ask questions. So *Braid* asked 'what if you can roll back time?' 'What if you can slow time?' So many games start with that 'what if?'"

WATCH THIS SPACE

If you're tempted by working with NASA, either as partner or employee, the agency has a clear message for you; don't let their size, status or line of work intimidate you.

"I want to emphasise to your readers that we're constantly looking for new partnerships and collaborations, because it's great to discover the devices and technologies that are coming out of this industry and find new ways to apply them," Norris told *Develop*. "Without exception every time we've done that we've found the community to be so supportive of us doing that, and I think every time we've done it previously everyone has found it to be rewarding."

NASA by nature has to remain modest with details about the games business partners it has worked with so far, but can reveal it already has a relationship with Microsoft, and is presently in talks with the Oculus Rift team, as well as hardware manufactures such as Leap Motion and zScreen.

And next, NASA and the JPL team wants to talk with you. ■

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DEVELOP DIARY

Your complete games development event calendar for the months ahead

NORDIC GAME 2013
May 22nd to 24th
Malmö, Sweden
www.nordicgame.com

Nordic Game celebrates its tenth anniversary this year in the heart of Sweden's tech and media hub.

A packed programme will see global industry figures such as Tim Schafer, Richard Lemarchand, Mattias Nygren and more discuss game design, technology and business.

Matchmaking rooms and an indie showcase supplement the three-day event, which has become a firm fixture of the Nordic games development calendar.

APRIL 2013

GAME MARKETING SUMMIT 2013
April 17th
San Francisco, USA
www.gamemarketingsummit.com

MCV AWARDS 2013
April 18th
London, UK
www.mcvawards.com

DEUTSCHE GAMESTAGE 2013
April 23rd to 27th
Berlin, Germany
www.deutsche-gamestage.de

EAST COAST GAME CON 2013
April 24th to 25th
Raleigh, USA
www.ecgconf.com

FESTIVAL OF GAMES 2013
April 24th to 25th
Amsterdam, The Netherlands
www.festivalofgames.nl

MAY 2013

NEUROGAMING 2013
May 1st to 2nd
San Francisco, USA
www.neurogamingconf.com

MOBILE GAMING USA 2013
May 14th to 15th
San Francisco, USA
www.videogamesintelligence.com

DEVELOP QUIZ
May 15th
London, UK
www.develop-online.net/events

NORDIC GAME CONFERENCE 2013
May 22nd to 24th
Malmö, Sweden
www.nordicgame.com

GAME CONNECTION ASIA 2013
May 28th to 29th
Shanghai, China
www.game-connection.com

JUNE 2013

E3 EXPO 2013
June 11th to 13th
Los Angeles, USA
www.e3expo.com

GAMES FOR CHANGE FESTIVAL 2013
June 17th to 19th
New York, USA
gamesforchange.org/festival2013

WEB GAME CONFERENCE 2013
June 19th to 20th
Paris, France
www.webgameconf.eu

JULY 2013

DEVELOP CONFERENCE 2013
July 9th to 11th
Brighton, UK
www.developconference.com

THE MONTH AHEAD

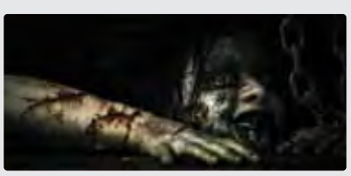
A look at what April has in store for the industry and beyond

APRIL 12TH
Day of Human Space Flight.
That's another small step for man, as we look to the heavens for our next giant leap.

APRIL 18TH
MCV Awards 2013.
Our sister magazine celebrates the games retail and marketing successes of the last 12 months.

APRIL 23RD
Deutsche Gamestage 2013.
Germany's largest developer conference returns with eight events over five days.

APRIL 24TH
Festival of Games 2013.
New to this year's festival are programmes for new talent and executives.



APRIL 12TH
Evil Dead.
A remake of Sam Raimi's OTT 1981 gore fest by Uruguayan newcomer Fede Alvarez.

APRIL 18TH
F2P Summit 2013.
Develop quizzes Molyneux on stage, and hosts a discussion at this one-day F2P summit.

APRIL 23RD
World Book Day.
Time to honour print books; for the knowledge, the stories and memories they hold.

APRIL 26TH
Deadly Premonition: DC.
PS3 owners get to play the cult horror title that's baffled as much as it has intrigued.

APRIL 17TH
Game Marketing Summit.
Marketers get together to discuss how to get your games into the hands of more people.

APRIL 22ND
Earth Day.
Switch off your power-hungry tech for an hour to help save our home planet.

APRIL 24TH
East Coast Game Con 2013.
Seven tracks cover design to serious games at this US conference's fifth occasion.

APRIL 26TH
Star Trek.
With the JJ Abram sequel fast approaching, Digital Extremes' sci-fi shooter beams into stores.

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Variable declarations

//COMMENT: BUSINESS

Descent to the core

Rick Gibson ponders who the PlayStation 4 will serve, and if it has what it takes to thrive

By choosing cheaper components and features to get developers on side, Rick Gibson says Sony has positioned itself well for the coming generation

SONY'S PS4 REVEAL may at first glance have appeared a little rushed – little visible hardware, some new peripheral hardware, some tech demos and UI tweaks – not vast amounts to get consumers excited. As the dust settles, industry reaction becomes more considered and Sony's top brass open up, we look at how strategic decisions for PS4 return Sony's focus to a single target market – the core gamer.

Sony's developer-centric drive has been widely covered. Sony, still smarting from Vita's failure to sign up sufficient stand-out content, correctly discerned that developers care little for form factors, but instead about what games they can develop, at what cost, and increasingly what assistance the platform can give in distribution. The performance of demos, almost all of them in core genres, look pretty good, certainly enough to interest the hardcore fan. Despite hype around specs, it's clear PS4 will be cheaper to develop for than feared. Where some developers reported up to 50 per cent increases in development cost between PS2 to PS3, the uplift between PS3 and PS4 is greatly less, reassuring studios that the fiddly intricacies of PS3 development are being tackled.

Component costs have always driven Sony's policy of slow, unrushed hardware SRP reductions, and management will be unwilling to repeat the uncomfortable experience of being forced prematurely to lower Vita's prices. The shift from proprietary to off-the-shelf tech – dictated by financial necessity as much as strategy – has also reassured developers that retail prices at launch should be reasonable.

CASTING A WIDE NET

Sony's focus on the service behind the platform has also impressed. Worldwide Studios continues to cast a wide and generous net out to small and mid-scale developers. Although the number of studios that can scale up their production values from small-scale games on PSN to full-scale retail titles will remain small, core consumers have shown they will subscribe to PlayStation Plus, within which small-scale titles are important components. The process of self-publishing, setting one's own prices from $0 upwards and helping developers onto the platform needs more flesh on the bones, but this recruitment drive has already attracted mega-studios Bungie and Blizzard, historically Microsoft/PC-exclusive studios.

> ***If PS4 can satisfy the core gamer while keeping development costs down for a slate of high-profile launch titles, Sony will have the balance right.***

The core gamer has always been the initial sales focus for new console generations, a trend bucked successfully, if only for a single generation, by Nintendo. What's changed in the market since Wii is effectively a market correction, demonstrated by Wii U falling awkwardly between core and casual markets. The mass-market gamer is simply harder to reach and monetise today; in parallel the core gamer is increasingly accessible and spending more. Worldwide Studios' boss Shuhei Yoshida, describing a mass market playing at lower cost on mobile devices, admits that it will be hard to convince many such gamers to spend extra money on hardware or high-end games. The conclusion seems to be to focus on the core gamer, get core developers on board and address the mass market later.

The addition of extensions such as remote play on Vita, the touchpad controls and smartphone viewing are puzzling. Like EyeToy, Move and PS3-to-PSP links in *Gran Turismo*, these optional extras have so far triggered some innovation but little to change the market. Instead they have fragmented the user base into subsets offering features that cost developers more to develop and port between platforms. For instance, what innovation has there been that properly uses Wii U's second screen? Surprisingly little so far sets Wii U titles apart, let alone changes how games are made.

SHARE AND SHARE ALIKE

Some social and mobile developers have derided the Share button, but they ignore video's popularity with core audiences and the constraints of PlayStation's closed platform. Video of video games is huge. YouTube's single biggest channel is Machinima, with over two billion monthly views. PS4's record, upload, share abilities, while not breaking new ground in social marketing or functionality, are easier than previous iterations and will prove more popular. Sony's integration of Gaikai may be as far as a closed platform could reasonably have gone without letting everyone in and breaking Sony's basic business model. Core gamers have always had higher tolerance to friction and PS4's rapid game restarts, sharing and game stream viewing are well targeted.

So Sony's bets have been clearly placed on the table. If PS4 can satisfy the core gamer while keeping development costs down for a slate of high-profile launch titles, Sony will have the balance right. A good reveal of the form factor, acceptable pricing and more polished games at E3 will get core gamers salivating and put Sony in good position for the inevitable duel with Microsoft. We wait to see whether 720 will return to its core gaming roots, or will attempt a more mass market, Kinect-influenced strategy.

Rick Gibson is a director at Games Investor Consulting, which provides commercial check-ups, strategy and data to games, media and finance companies.
www.gamesinvestor.com

//COMMENT: STUDIO MANAGEMENT

Getting iteration right first time

Iterating is rarely a favourite use of time, but **Mike Simpson** explains why getting it right is essential

ITERATION IS DUMB compared with getting it right first time, but because we can't perfectly predict how our ideas will actually play out, it's an absolute necessity.

Iteration being a necessity is believed religiously by the majority of games developers, but in one particular area – gameplay mechanics – it's not 100 per cent true.

For novice designers iterating is the only option. Give them a good iterative methodology, and they will eventually produce good work. Fling enough mud and some will stick. Add design by metrics, and you can target your mud somewhat better, but believing too strongly in the methodology can encourage lazy design and eternal novices. At best it's inefficient and at worst it can send projects on a spiralling death march. It contributes to rising project costs and unpredictable results.

A CASE IN COUNTER POINT

So how do you maximise your chances of getting gameplay right first time? To answer that, first you have to be clear about what gameplay is. There are several factors that characterise good gameplay – immersion, adrenaline, simplicity, depth, progression and so on, but the one thing that defines gameplay is counterpoint. Counterpoint is the simple idea that for everything you can do there has to be a reason not to do it – a circumstance where it's the wrong choice.

It's what Sid Meier calls 'interesting decisions' and he says they're important for gameplay. I'd go further and say counterpoint is gameplay. It's the defining difference between a game and an 'interactive experience'. So in a racing game, going faster wins, but going faster around bends crashes. Let the player bounce around bends without slowing and the gameplay is gone. In a shooter, aiming longer increases the chance of a kill, but also the chance of being shot. And so it goes – at the core of every feature of every game ever made is counterpoint, and the difference between great gameplay and bad gameplay is that the counterpoint is strong. Everything else is wrapper, and while the wrapper may in some cases be astounding, wrapping alone cannot make a great game – there will always be a nugget of sound gameplay at the core. There are no exceptions.

So counterpoint equals gameplay, but what does that gain us? Creating counterpoint is science, not art, so it can be engineered, and if it can be engineered it can be done right first time – no iteration.

You won't learn counterpoint engineering from a book. The only way to learn is by deconstructing games – lots of games – in minute detail to figure out how they tick. The principles are the same regardless of genre, very much like systems dynamics has parallels between electrical, mechanical, and economic systems etc. The form is wildly different but the maths is the same.

So, for example, the shrinking targeting reticule on my (recently clumsily nerfed) VK2801 has the same gameplay mechanics as declaring railway shares in the board game Union Pacific. Those parallels let you cut and paste proven and fully understood gameplay mechanics between very different genres, and understand how they fit in to their new context.

IN THE BALANCE

For each feature we need to evaluate whether its counterpoint is strong enough to earn its place in the game, and whether changes would make it stronger or weaker. We need to make sure the risk/reward trade-off is comparable with other choices. Too much reward and it becomes a 'right answer', and too little makes the choice not worth taking. Lastly, we need to make sure circumstances around the decisions change in a way that affects outcomes. The player can then combine his skill with his judgment of the situation to make the best choice. However, there are many other factors that affect counterpoint, such as perfect balance, luck and predictability. These are the traps waiting for designers.

So, by engineering counterpoint it is possible to design in strong counterpoint from the start with little or no iteration, especially when you're on familiar ground. This frees the team up to use their creativity to craft the rollercoaster ride, rather than being stuck bolting wheels on carts. Of course, it's not easy, and in reality we all end up having to iterate gameplay to some extent, but it's not something we should be proud of.

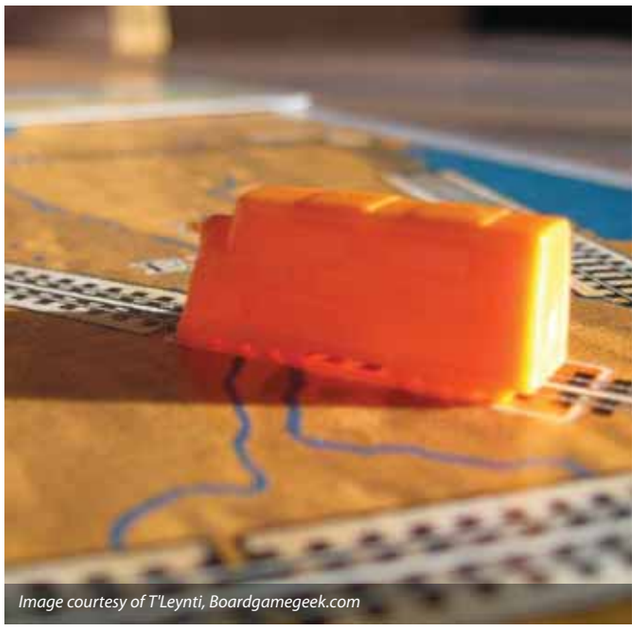

Image courtesy of T'Leynti, Boardgamegeek.com

Nailing a successful counterpoint can infuse fun back into gameplay, just as in board game Union Pacific (above), says Mike Simpson

Mike Simpson is creative director at The Creative Assembly. He joined the studio in 1996 director, and has since spent much time at the Reigns of the developer's lead IP, RTS series Total War. This month Simpson stands in for Tim Heaton. **www.creative-assembly.co.uk**

//EXTRA CONTENT ONLINE

"The most common misconception prospective employees have about working in Asia is that they'll just become a manager of an outsourcing team, and this couldn't be further from the truth."

Jamie Stowe, Just Dandelion

"There are far too many legal landmines in the app marketplace to navigate these digital waters without knowing what you might encounter. Regardless of your size, take care of your app's legal business early on."

Dan Rogers, Games lawyer

"Even once you find out the difference between the DF, AMPF, BIF and PTF, they're all completely different funding schemes with different criteria and benefits, so where do you begin?"

Michael Walker, Aphelio

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Half-Life 2 triumphs in Critics' Choice Develop 100

Valve dominates our latest round up of the world's finest games and developers

VALVE-DEVELOPED SHOOTER *Half-life 2* has emerged as the most popular game of all time, according to input from hundreds of professional video games critics.

The FPS secured the number one spot in the new *Critics' Choice* edition of our long standing *Develop 100*, which has in previous editions considered revenues, review scores and reputation in ranking the finest games ever made, and the studios that made them.

For the new volume of the *Develop 100*, however, we pooled votes from over 200 journalists, covering online, print, broadcast and specialist press, each of whom submitted a list of up to ten games they felt were the best yet created.

And now the *Develop 100 Critic's Choice*, itself a prequel to the upcoming *Develop 100* 2013 edition, is available on the App store for just £1.49. That price includes last year's main *Develop 100*, which features the ranking of 100 studios based on UK sales data, as provided by GFK Chart-Track, plus detailed background facts and analysis.

Half-Life 2 was not the only Valve-developed title in the *Critics' Choice* list, with *Half-Life* and *Portal* also in the top 10, and *Counter-Strike, Portal 2* and *Team Fortress 2* securing places in the rest of the list.

Other studios also saw multiple entries in the list, including Nintendo EAD, Rockstar North and BioWare, while franchises that dominated counted among them *Metal Gear Solid, Mass Effect, Mario, The Legend of Zelda* and *Grand Theft Auto.*

Sequels and series also prospered, with seven games in the top ten counting as direct follow-ons or spiritual successors to other games. There are just six games in the *100* that have never had a sequel and were original IP; namely *Journey, Grim Fandango, Minecraft, Rez, Braid* and *Okami*.

> ***"There are just six games in the 100 that have never had a sequel and were original IP; Journey, Grim Fandango, Minecraft, Rez, Braid and Okami."***

And 27 games on the list are games that are second-in-a-series, such as *Sonic the Hedgehog 2,* or a direct sequel to another title in a franchise, like *Super Mario Galaxy 2*.

After the *Critics' Choice* list, three further volumes of the *Develop 100* will be published this year. We will reveal which insightful metrics they will use at a later date.

For sponsorship opportunities and advertising enquiries in future *Develop 100s* contact **Alex.Boucher@intentmedia.co.uk**.

To see the full *Develop 100 Critics' Choice* list, and find out if and where your favourite game placed, be sure to download the *Develop 100* on the App Store.

THE TOP 5 GAMES

BioShock charmed enough press to see it take second place on the list

THE TOP FIVE games in the *Develop 100 Critics' Choice,* based on the number of votes received from hundreds of professional games journalists tasked with highlighting the games they deem to be the best ever made were as follows :

1. *Half-life 2*
2. *BioBhock*
3. *The Legend of Zelda: Ocarina of Time*
4. *Portal*
5. *Mass Effect 2*

THE BEST OF THE BEST: THE STUDIOS AND SERIES

Nintendo EAD's output saw it emerge as one of the most popular studios

THE DEVELOP 100 *Critics' Choice* data didn't just provide us with a list of the games journalists' favourite individual titles; we were also able to collate the following league tables of the most popular studios and development series of all time:

TOP 10 GAME STUDIOS ACCORDING TO CRITICS

1. Valve
2. Nintendo
3. Rockstar North
4. BioWare
5. Bethesda Game Studios
6. Blizzard
7. Looking Glass Studios
8. LucasArts
9. Naughty Dog
10. Kojima Productions

TOP 20 GAME FRANCHISES ACCORDING TO CRITICS

1. *Mario*
2. *The Legend of Zelda*
3. *Half-Life*
4. *Portal*
5. *Grand Theft Auto*
6. *Metal Gear Solid*
7. *Final Fantasy*
8. *The 'Shock series*
9. *Elder Scrolls*
10. *Star Wars*
11. *Mass Effect*
12. *Resident Evil*
13. *Deus Ex*
14. *Fallout*
15. *Metroid*
16. *Civilization*
17. *Halo*
18. *Warcraft*
19. *Street Fighter*
20. *Monkey Island*

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BETA

DEVELOPMENT FEATURES, INTERVIEWS, ESSAYS & MORE

Nimrod on music rights p28

Be a winner

Find out all you need to know in our complete guide to the Develop Awards 2013, p18

Localisation Focus p24

Next-gen consoles and education p40

DEVELOP AWARDS
HOW TO WIN ONE

This July will see the best of the best from the European development sector gather in Brighton for the prestigious annual Develop Awards. Want to know how to be a winner for the 2013 event? Then read on

THE CATEGORIES 2013

- NEW IP
- USE OF A LICENCE OR IP
- VISUAL ARTS
- AUDIO ACCOMPLISHMENT
- USE OF NARRATIVE
- PUBLISHING HERO
- ONLINE INNOVATION
- TECHNICAL INNOVATION
- TOOLS PROVIDER
- ENGINE
- SERVICES
- CREATIVE CONTRIBUTION – AUDIO
- CREATIVE CONTRIBUTION – VISUALS
- RECRUITER
- MICRO STUDIO
- BUSINESS DEVELOPMENT
- INDEPENDENT STUDIO
- IN-HOUSE STUDIO
- NEW STUDIO

SPECIAL AWARD
- DEVELOPMENT LEGEND

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NEW IP

WHO'S ELIGIBLE?
Any UK or European studio-made IP released in the last year, and first premiering as a boxed or downloadable product which has introduced an original brand plus new gameplay aspects and/or original characters to consoles, portable devices or PC.

LAST YEAR'S WINNER
Frozen Synapse (Mode 7 Games)

PREVIOUS WINNERS
2011: *Enslaved* (Ninja Theory)
2010: *Heavy Rain* (Quantic Dream)
2009: *LittleBigPlanet* (Media Molecule)
2008: *Lost Winds* (Frontier Developments)

USE OF A LICENCE OR IP

WHO'S ELIGIBLE?
Any game released in the previous 12 months by a UK or European studio that is a proven quality title, but is based on an external property (licensed or otherwise) not owned or created by its developer.

LAST YEAR'S WINNER
Batman: Arkham City (Rocksteady Studios)

PREVIOUS WINNERS
2011: *F1 2010* (Codemasters Birmingham)
2010: *Batman: Arkham Asylum* (Rocksteady Studios)
2009: *LEGO Batman* (Traveller's Tales)
2008: *LEGO Indiana Jones* (Traveller's Tales)
2007: *LEGO Star Wars II* (Traveller's Tales)

VISUAL ARTS

WHO'S ELIGIBLE?
Any UK or European studio that has demonstrated impressive graphical and/or distinct, iconic design work in the games or gaming content it has produced and released during the past year.

LAST YEAR'S WINNER
Ubisoft Montpellier (*Rayman Origins)*

PREVIOUS WINNERS (BEST ART & AUDIO)
2011: Playdead (*Limbo*)
2010: Black Rock Studio (*Split/Second)*
2009: Media Molecule *(LittleBigPlanet)* (for Best Art & Audio)
2008: Rockstar North (*GTA IV*) (for Best Art & Audio)
2007: Rare (*Viva Piñata*) (for Best Art & Audio)

Last year's Legend winner David Perry, flanked by his family

DIARY DATE: The Develop Industry Excellence Awards take place on **July 10th** at the Brighton Hilton Metropole

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AUDIO ACCOMPLISHMENT

WHO'S ELIGIBLE?
Any UK or European studio, that has demonstrated pitch-perfect audio design, sound or music creation in its games released during the past 12 months. Use of licensed and original tracks can be taken into account.

LAST YEAR'S WINNER
EA Dice (*Battlefield 3)*

PREVIOUS WINNERS
2011: Somethin' Else (*Papa Sangre)*
2010: FreeStyleGames (*DJ Hero)*
2009: Lionhead Studios (*Fable II*)
2008: Rockstar North (*Grand Theft Auto IV*)

USE OF NARRATIVE

WHO'S ELIGIBLE?
Any game that has made clear efforts to balance and combine storytelling and gameplay design. Finalists will be those games which have successfully mixed narrative into the interactive experience. A project's specific writers will be credited where possible.

LAST YEAR'S WINNER
Dear Esther (Thechineseroom)

PUBLISHING HERO

WHO'S ELIGIBLE?
Any games publisher, developer, hardware manufacturer, platform-holder or investor – from any country – that has supported the UK and European games developers during the past year via the publishing, funding, distribution and/or co-development of new games.

LAST YEAR'S WINNER
Valve

PREVIOUS WINNERS
2011: Valve
2010: Channel 4
2009: Apple
2008: Nintendo

Thechineseroom's Jessica Curry takes to the stage

ONLINE INNOVATION

WHO'S ELIGIBLE?
Any UK or European game, studio or global technology provider which has pushed the envelope in terms of how games utilise the internet and connectivity. Consideration will be given to examples from European-made games – such as specific gameplay devices – and both broader technology platforms and third parties.

LAST YEAR'S WINNER
World of Tanks (Wargaming.net) (for Use of Online)

TECHNICAL INNOVATION

WHO'S ELIGIBLE?
Any UK or European studio or company that has demonstrated impressive technical innovation in any aspect of games development. The award can be given to a specific tech, title or studio – provided it has been active/released as a new product in the last 12 months.

LAST YEAR'S WINNER
Geomerics (Enlighten)

PREVIOUS WINNERS
2011: Microsoft Research Cambridge (Kinect)
2010: Unity Technologies (Unity 3D)
2009: Media Molecule (*LittleBigPlanet)*
2008: NaturalMotion/Image Metrics (*GTA IV*)

TOOLS PROVIDER

WHO'S ELIGIBLE?
Any company, of any nationality, that has released middleware or tools which have enhanced or supported the work of UK or European games development teams in the past year. Developer collaboration, new technology and industry relations are all key.

LAST YEAR'S WINNER
Epic Games

PREVIOUS WINNERS
2011: Autodesk
2010: Hansoft
2009: Autodesk

ENGINE

WHO'S ELIGIBLE?
This is an award for the best third-party engines. It's open to any engines regardless of where it is made, that has enhanced the work of UK or European games development teams in the past year. Weight is given to new versions or significant upgrades.

LAST YEAR'S WINNER
Unity 3.5 (Unity Technologies)

PREVIOUS WINNERS
2011: Unreal Engine 3 (Epic Games)
2010: Unreal Engine 3 (Epic Games)
2009: Unreal Engine 3 (Epic Games)

SERVICES

WHO'S ELIGIBLE?
Any UK or European studio or company that has demonstrated impressive technical innovation in any aspect of games development. The award can be given to a specific technology, title or studio – provided it has been active/released as a new product in the last 12 months.

LAST YEAR'S WINNER
VMC Game Labs

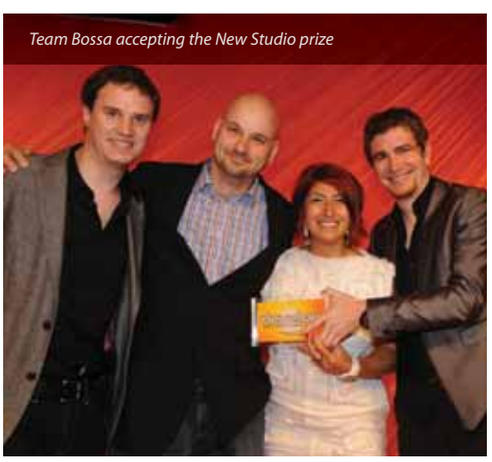
PREVIOUS WINNERS
2011: Audiomotion
2010: Testology

CREATIVE CONTRIBUTION – AUDIO

WHO'S ELIGIBLE?
This new award goes to a creative outsourcer for its work on an individual project in terms of the game's audio. It acknowledges businesses or individual external contractors that have helped produce, manage or directly generate audio material (music, voice recording or VFX) for games released in the last 12 months.

LAST YEAR'S WINNER
Side (for Audio Outsourcer)

PREVIOUS WINNERS
2011: Side (for previous Audio Outsourcer award)
2010: Side (for previous Audio Outsourcer award)
2009: Side/Sidelines (for previous Creative Outsourcing award)



Team Bossa accepting the New Studio prize

CREATIVE CONTRIBUTION – VISUALS

WHO'S ELIGIBLE?
This new award goes to a creative outsourcer for its work on an individual project in terms of the game's visuals. It acknowledges businesses or individual external contractors that have helped produce, manage or directly generate visual material (CG, video or assets) for a game released in the last 12 months.

LAST YEAR'S WINNER
Cubic Motion (for Visual Outsourcer)

PREVIOUS WINNERS
2011: Axis Animation (for previous Visual Outsourcer award)
2010: Axis Animation (for previous Visual Outsourcer award)

DIARY DATE: The Develop Industry Excellence Awards take place on **July 10th** at the Brighton Hilton Metropole

RECRUITER

WHO'S ELIGIBLE?
Any UK or European company working in the field of recruitment and human resources that has demonstrably served the needs and demands of the UK and/or European development community during the last 12 months.

LAST YEAR'S WINNER
Amiqus

PREVIOUS WINNERS
2011: Specialmove
2010: Amiqus
2009: Amiqus
2008: OPM

MICRO STUDIO

WHO'S ELIGIBLE?
Any UK or European games developer – consisting of an individual or small collective of people up to a maximum of ten – who have had significant original output in the past year.

LAST YEAR'S WINNER
Thechineseroom

PREVIOUS WINNERS
2011: Mojang Specifications
2010: Hello Games

BUSINESS DEVELOPMENT

WHO'S ELIGIBLE?
Any UK or European studio that has, in the previous 12 months, improved its business as demonstrated by studio growth, acquisitions, investments both inward or outward and/or steps to improve its output, efficiency or commercial performance.

LAST YEAR'S WINNER
NaturalMotion Games

PREVIOUS WINNERS
2011: Mind Candy
2010: Sony XDev
2009: Playfish
2008: Realtime Worlds

INDEPENDENT STUDIO

WHO'S ELIGIBLE?
Any UK or European games development company, staffed by 11 people or more, and which is not owned or managed by a publisher working on any available game platform. Lobbying studios should have had some significant output in the last year.

LAST YEAR'S WINNER
CCP

PREVIOUS WINNERS
2011: Crytek
2010: Quantic Dream
2009: Media Molecule
2008: Splash Damage

IN-HOUSE STUDIO

WHO'S ELIGIBLE?
Any UK or European publisher-owned games development company or in-house games development resource – including those acquired recently – working on any currently available games platform with title(s) released in the past year.

LAST YEAR'S WINNER
Creative Assembly

PREVIOUS WINNERS
2011: Media Molecule
2010: Rocksteady Studios
2009: Rockstar North
2008: Rockstar North
2007: Ubisoft France

NEW STUDIO

WHO'S ELIGIBLE?
Any new UK or European studio which has had its first game commercially released – either via retail or digital distribution – during the past year. However, companies do not need to have been founded during that period to qualify.

LAST YEAR'S WINNER
Bossa Studios

PREVIOUS WINNERS
2011: Mojang Specifications
2010: Hello Games
2009: Media Molecule
2008: Doublesix
2007: Realtime Worlds

Mike Gamble with Epic's Tools Provider award

THE DEVELOPMENT LEGEND AWARD

THIS YEAR OUR longstanding Development Legend accolade is the sole focus of the Special Awards, giving singular recognition to a luminary of the games making sector. And, for the first time, the Development Legend award is open to games sector icons globally.

WHO'S ELIGIBLE?
The winner of this award, especially chosen by the *Develop* team, is an individual who has made a significant impact on games development – in a commercial, creative or technological sense – during their lifetime and career.

LAST YEAR'S RECIPIENT
David Perry

PREVIOUS WINNERS
2011: Ian Livingstone
2010: The Gower Brothers (Jagex)
2009: Phil Harrison

LOBBYING – HOW CAN I WIN AN AWARD?

When do the awards take place?
The Develop Industry Excellence Awards take place on the evening of July 10th at the Brighton Hilton Metropole, during the Develop Conference 2013.

Can I sponsor the event?
There remain a number of excellent promotional possibilities at the event. Those include opportunities for sponsoring specific awards, and supporting editorial coverage to raise your profile before, after and during the event. Contact **Alex.Boucher@intentmedia.co.uk** to discuss the other high-profile sponsorship opportunities available.

How can my company enter?
This one's simple. Send us a short pitch (around 200 words will suffice), either as a Word document, or plain text in an email body, explaining why you or the compnay you are lobbying for should be considered as a nominee.

Please also supply a bullet point list of creative, commercial and/or technical accomplishments made by your business in the eligibility period. Send all that to **developlobbying@intentmedia.co.uk.** And, importantly, don't forget to tell us what awards you want to be considered for.

You're also actively invited to lobby for other companies across the games industry – be it publishing partners, your favourite services or outsourcing outfits, and studios that you admire. Lobbying isn't voting, so there is no need to get all of your partners to put your name forward without any detail.

The deadline for lobbying is 5pm GMT on **Tuesday, April 16th.**

What's the eligibility criteria?
Please note that to be eligible the games in question must have been released somewhere in the world after May 1st, 2012 and by April 30th, 2013.

That counts whether the game is either a physical release or a digital title. It should be noted that games in a commercial public beta phase are also eligible for the awards.

Businesses must be based in Europe to be eligible – technology or services firms from outside Europe can lobby for their relevant catagories provided that they can prove worthwhile support or collaboration with studios in the region.

Technology or services firms based in Europe that have worked on games developed outside of the region are also able to apply.

So what's the judging process?
When all nominations are in, they are each carefully appraised by the *Develop* editorial team.

The team then decides upon a shortlist for each award based on the lobbying documents and industry standing.

Profiles of the shortlisted companies are then sent out to a judging panel made up of 100 industry executives hand-picked by the *Develop* team.

The judges confidentially disclose their choices, and those nominees with the most votes win in their award category. Simple. The names of the judges are only named after the event.

I want to come along. How can I attend the awards?
As ever the Develop Awards remain an affordable way to attend a key industry event, honour you peers and network with some of the finest of the global games industry.

Single seat ticket prices remain the same price as they were last year, and the full prices after the early bird remain the same – or even cheaper in the case of the Gold Table deal.

Early bird prices, for those tickets or tables booked on or before June 7th, are: Gold Table of 10 – £2,250 + VAT; Standard Table of 10 – £1,950 + VAT; and Single Seats – £195 + VAT.

From June 8th the prices change to: Gold Table of 10 – £2650 + VAT; Standard Table of 10 – £2350 + VAT; and Single Seats – £235 + VAT.

To book your place at the event contact **Kathryn.Humphrey@intentmedia.co.uk**

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SHORTLIST
OPM – AWARD NOMINEES EVERY YEAR SINCE 2008

Celebrating 15 years in the industry. Good going in any language.

It seems like only yesterday that it all began with just a desk, a computer and a vision - to be the games industry recruitment agency that clients and candidates really want to work with.

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PLACING PROFESSIONAL PEOPLE
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Think global, think local

Localisation firms have more translations to do and less time to do them in. **Aaron Lee** reports on a sector in transition

Top-to-bottom: Localize Direct's Michael Souto and Richard van der Giessen of U-Trax. Above: Level-5's Ni no Kuni was praised for it detailed translation

LOCALISATION IS A preparation that, when done well, often remains oblivious to the player. Text and dialogue convey the means that were originally intended, regardless of what language they exist in. There's a fluency, familiarity and consistency to the conversion right down to the packaging.

But translation is just the surface. It's about understanding the cultural needs of individual countries and markets. And for the companies at the forefront of games localisation the road has been a rocky one lately. New platforms, such as smartphones and tablet computers, have meant that there has been a fresh bout for their services. And the increasing interest in emerging markets such as Brazil is creating new prospects for them. Yet conservative behaviour from publishers, and some developers, has meant that localisation firms are having to be canny about their businesses.

A QUESTION OF COST

"The holy trinity is the same as it's always been: quality, speed and cost," says Michael Souto, business development manager at Localize Direct, when asked what it is clients want from external localisation companies today. "The quality has to be great, it needs to be delivered as quickly as possible, but at a price which is comfortable to manage. Of the three, I would suggest that cost is probably the top priority."

And by all accounts, he's not wrong.

Hugh Edwards, director of voice and dialogue specialists High Score describes what the temperature has been like in the recent past: "The recession has had a huge impact on localisation, where many publishers are refusing to localise dialogue in favour of on-screen text. This is obviously a fiscal decision and is short-sighted in that the gamers in other countries have less of an experience than those in English-speaking territories.

> ***"With publishers and developers having to invest in the core game, budgets for localisation are getting squeezed, especially in audio."***
>
> Keith Russell, Babel

"As the economy is starting to heal, we're seeing that trend buckle and publishers more concerned with the needs of their audience. I completely understand why it's happened, and in some cases it's been unavoidable – especially in an effort to try and save jobs."

On the development side, cost is one reason why a number of publishers and developers have taken localisation in-house where possible.

Launched in 2004, social gaming company Spil Games now possesses a collection of over 4,000 games created in-house and through partnerships for its gaming portals. It offers these games in 15 languages and today claims to entertain some 180 million players each month. Catering to such a wide breadth of audiences, Spil prefers to rely on its internal localisation team first.

"When it comes to localisation QA, an internal team can ensure localisation is much faster and usually testers are more in touch with the nature of the product and the company," offers Spil's head of localisation and customer service Laura van Nigtevegt.

Speed, agility and flexibility is what van Nigtevegt believes developers expect, but she also recognises that internal localisation has its limits.

"There are disadvantages that also need to be considered," she adds. "Specifically, during peak times, internal teams might run into resource issues which can be helped by outsourcing overflow."

CASE STUDY: TESTRONIC LABS

Founded: 1998
Locations: UK, USA, Poland, Belgium, Japan
Headcount: 400+
Previous projects: *Gran Turismo 5*, *Kingdom Hearts*, *Angry Birds*, *League of Legends*, *Dead Island*, *Batman: Arkham Asylum*

IN 2012, TESTRONIC had its most successful year on record, and this year it expects to do even better. The company's games division continues to go from strength to strength. Not only is it Testronic's fastest growing division, it also boasts many of the industry's biggest publishers on its client list, including SCEE, PopCap, Square Enix, Sega, Deep Silver, Kuji Entertainment and many others in Europe, USA, Japan and elsewhere.

In recognition of its services, the company received a Develop Award nomination for the fifth consecutive year in 2012.

Having seen an increased demand for QA localisation, functionality, compatibility and compliance, the firm has significantly increased capacity at both its London and Warsaw facilities.

The company's broad QA coverage extends to all major consoles, PC, Steam, MMOs, handheld, mobile, social, casual and online games.

Recently, Testronic has invested in new technology and services, including a programme known as User Experience, which it showcased at GDC in San Francisco earlier this year.

www.testroniclabs.com

KEEPING COSTS DOWN AND QUALITY UP

This notion of keeping costs down, but quality up is nothing short of an obsession in games localisation.

Testronic Labs has been providing end-to-end localisation, testing and QA for an array of industries, including games, ecommerce and consumer electronics, for over a decade. The company's VP of games operations and UK site manager Alastair Harsant says that having facilities in London and Warsaw gives it both the means and the muscle to fulfil its clients' requirements.

For Harsant, games localisation is about providing quality, value and speed. To achieve that, in his view, it comes down to attracting the best staff in order to generate an infrastructure that allows them to offer clients the best possible price.

"We never compromise on quality and therefore speed can be the biggest challenge," he says. "However, we work with our partners to prepare for the project. Receiving roadmaps, game design documents and project ambitions from developers and publishers early gives us an opportunity to get off to the best possible start. It allows us to develop the best overall strategy and test plan, and gives us momentum from day one."

Another localisation firm aware of the cost-saving benefits that overseas branches can provide is Babel.

"With publishers and developers having to invest in the core game, budgets for localisation are getting squeezed, especially in audio, so delivering great work and the best overall savings possible are critical. Hence we now have a large internal team in our Montreal facility, where we can take the benefit of the Quebec tax grant and pass it back to our clients as lower costs," says Babel's VP of sales Keith Russell.

On the other hand, however, Souto of Localize Direct fears that some companies are merely in a race to the bottom, by offering "outrageously low prices". Given the fact that there are base translation costs, he's unsure how these companies are able to achieve this.

"I can't see how this is done without compromising on how the translations are created. We just hope that companies will really investigate how these prices are achieved and understand that there must be a balance between super-low-cost translations and quality," professes Souto.

FIGS LIKE THESE

Rampant belt tightening is one concern, but what has occurred in the localisation sector in recent years, and is continuing to evolve now, is a move to support more languages, beyond the traditional French, Italian, German and Spanish quartet. The reason for this is in part down to an influx of emerging markets, such as Brazil, China and the Middle East. But it is the powerful new mobile platforms – smartphones and tablet computers – which have made gaming accessible to more people worldwide than ever before. That fact has also led to today's current climate, and established a new avenue for localisation providers.

"Arabic, Chinese, Indonesian, Korean, Thai and Turkish are lately in demand, both in translation as well as testing," says Randall Mage, CEO of Localsoft. "In terms of mobile and Facebook games, it is common to translate these into a dozen or more languages and word counts can be as small as a few words to a few hundred words."

Anna Wojewodzka, operations manager at Universally Speaking, says she has also witnessed a significant increase in the volume of languages requested outside of the traditional FIGS arrangement: "As more games are released on mobile platforms and often self-published, the quantity of text in games decreases, whilst the number of projects we handle is rising."

Top-to-bottom: Alistair Harsant of Testronic Labs and Anna Wojewodzka of Universially Speaking. Above: Localisation is all about attention to detail

Top-to-bottom: Randall Mage of Localsoft, Keith Russell of Babel and Davide Solbiati of Synthesis. Right: Debug units awaiting game code to test, rinse and repeat

CASE STUDY: LOCALSOFT

Founded: 1988
Location: Spain
Headcount: 75
Previous projects: *Command & Conquer*, *LEGO Harry Potter: Years 1-4*, *Pokémon Diamond and Pearl*, *Monster Hunter Tri*, *Wii Sports*

LOCALSOFT IS A one-stop localisation service provider with more than 20 years of experience in video games localisation.

It translates video games manuals, on-screen text, voiceover scripts, packaging text, promotional material and websites into 50 languages.

Additionally, Localsoft offers other services such as desktop publishing, text-flow, complete audio services including foreign language voiceovers, linguistic and cosmetic testing via debug units and quality assurance.

It has localised over 500 titles, including triple-A games among them, in a variety of languages and platforms.

"We bring a wealth of experience to every project we work on," says CEO Randall Mage, a US citizen and long-time Spanish resident. "Our goal is to create a collaborative environment between the different parties involved in the project, not only concerning communications but also regarding procedures and tools. We care about the quality of your products, ensuring security during testing periods and providing guidance on quality checks and standards."

www.localsoftgames.com

By contrast, Mage says MMOs commonly run from tens of thousands to millions of words, and his company is used to setting up large in-house teams to work on these titles for several months to a year or more.

More platforms can equal more opportunities to generate income, but today's constantly upgrading hardware also bring with them their own challenges for firms. All mobile projects now require a level of functionality and compatibility testing. The non-stop conveyer belt of app updates means outsourcers have their work cut-out to keep up with clients' needs. Testology has adapted its services to address the ongoing issues that that the mobile revolution presents.

"We recognised the emerging mobile markets and began to invest in mobile devices a few years ago," says Harrison Baker, product manager at Testology. "We now have 30 iOS and close to 50 Android devices, each running multiple OS versions. We utilise tests over multiple device iterations to ensure accurate market share compatibility coverage."

U-Trax' president and founder Richard van der Giessen adds: "Now, more than ever, games are rarely 'finished' when they go to market. DLC and especially business models like free-to-play and games-as-a-service keep the game developing while consumers are already playing it."

Moreover, Localize Direct's Souto tells *Develop* that it is experiencing a greater reliance on split releases.

"There may be a few languages at time of launch but then other languages follow after a period of time. If there isn't a great localisation process in place, then the path will be littered with lost and old strings, more translator questions and wasted developer time," he argues.

A CULTURE OF SPEED

The demand for games to appear in a wider selection of languages is only the surface of what has become known as culturalisation. This practice is about making a game suitable for a particular locale. The aim is to make it more appealing and remove any elements which threat to offend, and therefore everything from cultural symbols like signs, to gestures and clothing, to religion and current affairs, needs to be considered.

Davide Solbiati, executive localisation director at Systhesis, believes that to guarantee proficiency in culturalisation and manage the challenges localisation presents, companies must have a direct presence in every single market.

"You can't just rely on a central office and then have a network of vendors," he says. "You need to have your own people around the world so that you can provide a consistent and standard service throughout your company. Having people working in the Americas, in Europe and in Asia, all part of the same company, all sharing the same approach, the same procedures and the same passion for gaming: this is what I see as the key elements to be unique and successful in the market."

Spil's van Nigtevegt claims that the industry is moving away from a 'one size fits all' model. "Sometimes you need superb quality that's highly culturally relevant," she adds.

Ni no Kuni: Wrath of the White Witch, the much anticipated collaboration between Japanese animation house Studio Ghibli and *Professor Layton* creator Level-5, was translated for the European market by Babel, and Russell says its involvement helped retain the game's endearing sentiment.

Russell adds: "It was a joy of game to work on and we were so pleased the localisation quality drew praise from both reviewers and players. It really shows what's possible when you get involved early and work as a team with a great developer and publisher."

Unlike *Ni no Kuni*, however, many games are not given the luxury of time for localisation.

Speed is the issue that almost every company *Develop* spoke to emphasised. It's a pattern that Testronic's Harsant is very much aware of: "The last few years has seen the need for more languages, less time in general to test and tighter budgets to work to. To achieve these client goals we need to constantly review our efficiency, technology and personnel."

And Spil's van Nigtevegt says the same is true of internal teams: "In a constant quest for a faster time-to-market, we're always overhauling our internal and external

processes. A big gain can be achieved when we manage to automate the full production process with the least possible human intervention – we're working on that here."

Universally Speaking's Wojewodzka claims there is now a "need for around the clock service to deal with short translations requiring a quick turnaround".

"As this trend progresses, we become more agile and responsive to make sure that we do not cause delays in the development process, but integrate our processes instead," she says.

SAME OLD, SAME OLD?

The expectation for greater speed from localisation vendors stems from the immediacy that connected platforms present. It's platforms such as smartphones, browser games and MMOs that have required them to expand their scope and skill set, and it looks as though it is these platforms, not the next generation of games consoles, where much of their work will be coming from.

Wojewodzka describes what's changed for Universally Speaking: "We've seen a decline in console development, which historically has been core business for localisation. However, this has been matched with an increase in development on other platforms. We are truly multiplatform which means that as long as we keep a balanced portfolio, reflective of the industry, we remain competitive and healthy."

Testology, too, is now seeing mobile, web and social projects dictating 80 per cent of its business. And Testology's Baker is frank about what's occurring: "Our industry is all about evolution, and the accessibility of these platforms – for both developers and consumers – means that service adaptability

> ***"The last few years has seen the need for more languages, less time in general to test and tighter budgets to work to."***
>
> Alastair Harsant, Testronic Labs

is crucial. This inevitably means that project size and budgets are smaller, and influence the amount of QA contact required.

"But we still need to ensure that these applications, websites, and Facebook games 'ship' with the same level of quality a consumer expects."

Of course, many of these firms are gearing up tackle the new machines, regardless. Testronic has increased capacity at its London and Warsaw facilities and the level of training for team members, Babel is directing its efforts to building teams that specialise on franchises and U-Trax has already begun to adapt by starting work on its first eighth generation titles.

HUSH-HUSH

The shifting sands of emerging markets, new platforms and skittish publishers is apparent. What's not so easy to approach is the affect the secretive nature of the games business is having on localisation firms.

The concern, which has been hinted at by some of the companies *Develop* spoke to, but only acknowledged as a real issue by a minority, is whether localisation companies are allowed to discuss the projects they have worked on more freely.

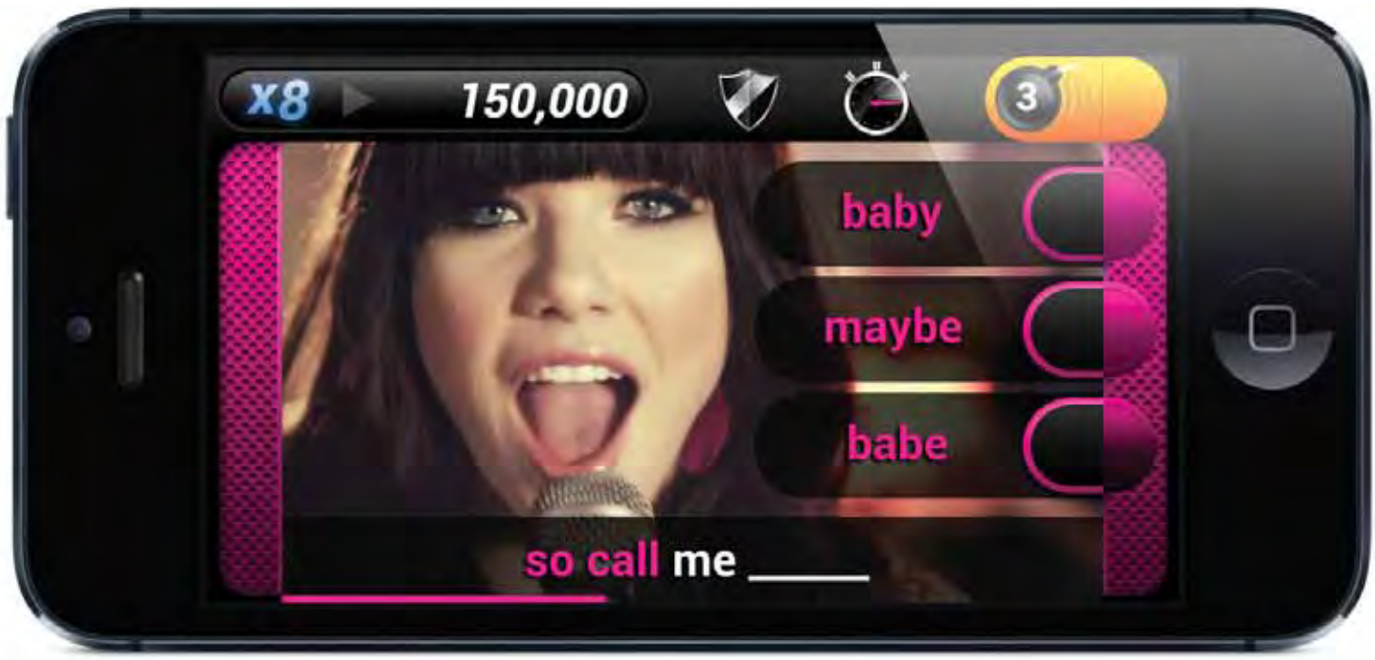
Though other sectors, such as the film and automotive industries, are known to keep their cards close to their chests, it has been suggested that the games industry operates in a uniquely guarded manner when it comes to disclosing work by external parties.

While this has been the agreed etiquette for generations, there are those working in games localisation that believe it shows that the industry still has growing up to do. After all, a little more openness could go a long way.

What's clear, however, is that the need for localisation has never been greater.

"With many customers self-publishing and going multiplatform, we get more requests for rigorous testing plans, but also an increase in playability and user insight. Companies need to know a lot more about what players are doing," concludes Wojewodzka. "As long as we keep a balanced portfolio, reflective of the industry, we remain competitive and healthy." ■

Top-to-bottom: Laura van Nigtevegt of Spil Games and Harrison Baker of Testology. Above: A U-Trax staff member deep in concertation



Music in your game? Meet the elephants in the room

Securing rights to existing audio can be a daunting process. **Sergio Pimentel** is here with a wealth of advice on the matter

The makers of Lyroke (above) had to consider lyric and video rights to get the likes of Carly Rae Jepsen in the game

'MUSIC? ELEPHANTS?' I hear you saying. 'What the hell is he on about?' Music, whether commercially released and licensed, or commissioned specifically for a product, is an integral component in games development.

From a haunting score to the pulsing and adrenaline fuelled licensed soundtrack on a dancing game, the music acquisition process is a key part of the development process.

If you've worked on any shipped video game, chances are you have dealt with a composer, record label, music publisher, agent/manager or lawyer.

The process can seem very daunting to those that never have before. Licensing commercial music in particular can become a real headache, as multiple copyright owners can be involved, and depending on which format of distribution for your game, different rights are required. Although basic rights are often understood, there are other rights often forgotten or ignored that have become the 'elephants' in the room, as detailed here.

PUBLISHING RIGHTS

This covers the composition and the lyric in the song and can be owned by several writers or copyright owners (music publishers).

RECORDING OR MASTER RIGHTS

This refers to the rights for a particular recording of a composition. These rights can again be owned by an individual but often by a record label. Multiple record labels may be involved if a recording is signed to different labels in different territories.

LYRIC RIGHTS

Working on a singing game or game such as *Lyroke*, where these are graphically reproduced on screen, these rights will need to be cleared with the publisher or writer direct if they have no publishing deal.

VIDEO RIGHTS

Where the promo video for a song is used in-game, these rights also need to be cleared and often are owned by the record label who have often financed the promo's production.

When using music in a video game, or indeed other visual media, other rights that need to be cleared come into play.

MECHANICAL RIGHTS

These rights are often misunderstood and I have heard claims that 'we don't clear mechanicals for video games'. The term, whilst a throwback to the mechanical machines that pressed records, actually refers to two distinct rights and should not be disregarded. It includes the right to make a copy of the music and to distribute that copy.

If you're making a game for physical release or for digital distribution, you are making copies of the music and distributing them on each disc or download. The music publisher can clear these rights in most cases, but there are exceptions when dealing outside of the UK.

Care needs to be taken here depending on the country of origin of the writers on the song. In certain countries such as France, if a writer is a member of the local rights society, in this case SACEM, they administer the rights on behalf of the writer.

In the case of French artists such as David Guetta, Phoenix or Daft Punk, their mechanical rights need to be cleared for use direct with SACEM, and not the music publisher.

PERFORMANCE RIGHTS

The rights to be able to perform the music will come into play in a number of ways with a video game. Whether it's promotion at retail or at consumer and trade shows, the music will be performed when the game is played – the venues, whether a shop or conference centre should have the appropriate licence in place and here in the UK it would be a PRS licence.

Where these rights are often overlooked is in the digital distribution space. A digital release, whether a download or an online game where gameplay is streamed, is a public performance of the work taking place.

This is always the case whether the music is being streamed or downloaded, as all territories outside North America recognise these acts as a public performance. In North America a public performance in a download is not legally recognised. Now you appreciate the complexities of inter-territorial licensing and the resulting confusion. In this case where a license needs to be acquired for the broadcast of the music online, who is responsible for having the public performance license in place? An area of much debate amongst music users, but if you speak to the PROs (performance rights organisations) it is the responsibility of the

Sergio Pimentel's mixing studio at Nimrod Productions (above)

broadcaster who can report on the number of downloads and streams so that remuneration can be calculated.

YouTube have a public performance licence in place as its core business relies on streaming. Does your website have a license in place? The fact that different music publishers have set up different licensing agreements with different societies to offer pan territorial licenses doesn't make the process any easier.

With the goal of a global rights database there are moves being made in the right direction to make this process less complex and confused, but currently we're a long way off from where we need to be.

THE FALSE START

Depending on the recording you are using and the musicians on that recording, you may need to speak to another bunch of firms other than the record label and publisher.

You may find that the record label is dealing with has language in their licences that state that there may be union payments due on the recordings.

Let's take Anglo American repertoire as it is often used in games. A recording from the UK may have musicians playing on it who may be members of the Musicians Union. If session musicians are present – not core members of the band – this recording will be due union payments. The same is the case with a US recording and its equivalent American Federation of Musicians, although there are others involved when dealing with American masters. The American Federation of Television and Radio Artists are another such organisations and in terms of music and recordings, they represent vocalists. In this case vocalist on a recording whether core member or not will be due residual payments.

Such organisations have established rate cards or formulas to work out such 'residual' fees, which often include a contribution towards a pension pot. Although an issue which has come up at contract stage for some time, many of those actually dealing day to day with copyright owners and acquiring music for media uses are simply unaware of the additional costs.

> ***"Music is a universally understood and loved part of the development process, not only in our industry but many others."***

Music is a universally understood and loved part of the development process, not only in our industry but many other media. As such, it is the one part of development that everyone feels they have a legitimate say in. On an A&R level this can be great as music tastes are varied and the more great ears on a project, the better (as long as there are not so many the decisions are stifled). Things tend to start turning where an understanding of rights needed for a particular use are absent – everyone may be an A&R, but very few can be the music lawyer; an equally important side of the music supervision process.

DECISIONS DECISIONS

What are your options? Above any advice I can give is simply be educated. Get someone in that knows what they are dealing with and you can relay what you are trying to achieve. After all, you wouldn't veer away from hiring a coder for your game as you're a game producer and a keen coder in your spare time. You will maximise your music budgets purely by having someone on board that knows how to navigate the various stakeholders in each of the rights that you need. Other options are music libraries – owners are in the position to confirm no union payments are due, although public performance is unavoidable. Although public performance rights still come into play if the product is streamed or downloaded, the team at Nimrod Productions educate clients to ensure they are aware of the licences they need to have in place and acquire them where relevant.

Now that the 'elephants' are fully in view, it's worth building them into your music acquisition plans. As they say, knowledge is power. ■

Sergio Pimentel is director of Nimrod Productions, and has 13 years experience licensing music for games and ad campaign deals. **www.nimrodproductions.com**

Middle Eastern promise

Rooted in a hotbed for the high-tech industries, and emboldened by digital distribution, Israel's development sector is starting to prosper. **Will Freeman** talks to the studios making it happen

Top-to-bottom: Almog Koren of Scoreoid and Jeremie Kletzkine of PrimeSense

ASK ALMOST ANY urban Israeli today about the nation's business strengths, and you'll likely hear about its prowess as a technology and hardware hub.

Outside the country's borders, blinded as many are by the light cast from Silicon Valley, it would be easy to assume such comments ware just grandstanding on behalf of enthusiastic locals.

But consider this. It was in Israel, at natural interface outfit PrimeSense, where the depth sensing technology behind Kinect was conceived and created. Quite simply, one of the fastest selling pieces of gadgetry of all time was born from Israel. It's also the place where Google recently established one of its most ornate offices yet, in the same Tel Aviv skyscraper that houses a vast PayPal base and areas dedicated to influential tech companies like semiconductor specialist Broadcom.

VCs in the region appear devoted to funding Israel's hardware businesses, and the country is very much thriving when it comes to tangible technology. As a result, Israel's games development sector is starting to establish itself, after years near dormant, cut off in an era before digital distribution.

"Israel is strong with effective development processes and technology," explains Guy Bendov, CEO at casual and mid-core games specialist Side-Kick. "Since Israel does not have a base history in console development, most studios started developing to Facebook or mobile, and oriented toward casual and mass-market games. Couple that with a strong technical background, [and you'll see that] most studios grow based on a strong analytics system and data driven design."

> ***"Although Israel is an Eldorado for tech start-ups, it was never the same for the content development companies."***
>
> Jeremie Kletzkine, PrimeSense

"The games sector in Israel relies on the vast experience in high tech industry Israelis have," offers Nimrod Dweck in agreement. Dweck is a producer, game designer and 'marketing ninja' at social studio eMaginarium. He also sits on the board of GameIS, a community and NGO games association that links together the country's industry.

"We have a great high-tech scene over here," he reiterates. "The VCs are experienced, the developers know how to work well under tight schedule and budget and we know how to approach international markets."

UNBOXED CLEVER

That background has long served as a stable foundation for Israel's games development industry, but there was one problem. Back when the games business was committed to PCs, dedicated hardware and boxed products, Israelis that did try their hand at making games often found themselves isolated from the publishers and service providers that took boxed releases to the international market, and realised the local region didn't have the size to justify triple-A development.

Then digital distribution came along.

"Although Israel is an Eldorado for technology start-ups, it was never the same for the content development companies," explains Jeremie Kletzkine, director of

Photo: Lilach Daniel, Creative Commons

business development for PrimeSense and the related 3D sensing framework OpenNI, and co-founder of GameIS. "The distance from targeted markets and cultures was always a competitive handicap. The Israeli studios are now taking advantage of new distribution/ad channels and platforms, such as Facebook and the mobile ecosystems."

Quite simply, the dawn of digital distribution was just what Israeli developers had been waiting for, and, coupled with the new accessibility of development tools, games developers based in the country were finally poised to spring to action from their long-standing high-tech launch pad.

"The traditional ecosystem of platform makers, publishers and studios did not make sense in the past for Israelis," confirms Side-Kick's Bendov. "A lot of would-be studios and people turned to the high-tech sector, due to its growth and financial backing. Financing, in general, was going only to scalable business propositions and content was not one of them."

But now, bolstered by the same platforms that have fuelled the progress of the global indie games scene, Israel's developers are now poised to join the ranks of the most well regarded industry hubs.

"Since the introduction of Facebook gaming and later Apple's App Store, barriers have gone down and the overall market grew, opening more opportunities for local studios," says Bendov. "Success today is heavily dependent on data and analysis, and Israelis fit perfectly into that line of thinking."

THINKING BIG

Additionally, says Gil Klein, SVP advertiser at the Tel Aviv headquartered Matomy, which offers developers distribution, advertising and monetisation services, Israel's past experience before the arrival of digital distribution has fostered a timely strength in a sector long forced to think globally.

"Israel is a tiny market," confirms Klein. "Most of the population is located in major cities, and the size of the populated areas is about the size of the state of Rhode Island in the US. We don't have game stores and game conventions like in many other European countries, and every studio that is looking to succeed must look overseas from the early planning stages."

The result is a globally facing mindset that currently serves Israel's studios well. It's a case of a challenge creating a strength, but one the Israeli games sector is today founded on.

A knock-on effect is a the establishment of a relatively tight community of developers in Israel, where GameIS serves as meeting point and melting pot for many of the country's most proactive studios.

"The community has had a big impact – from the GameIS organisation to the self-organized events, which allowed gaming to take center stage," states Almog Koren, founder and CEO at Israeli company Scoreoid, which provides the likes of cloud storage, leaderboards and achievement services to developers. "Just in the past month we had a Google event here talking about gaming and a Facebook event covering gaming. Both events had major newspaper coverage, and gaming has become more accepted within the Israeli business and high-tech community."

Clearly, the world's big players are now not just recognising Isreal's technological expertise, but its games and content industries too.

CASE STUDY: SIDE-KICK

IF A STUDIO typifies the games development hub emerging in Israel, it is Side-Kick. The team makes games targeting the mid-core and casual audiences, has an ambitious global attitude, and has already partnered with high-profile games and tech outfits across the world.

Since 2010 we have developed games for Xbox Kinect, Windows and various mobile platforms," explains CEO Guy Bendov (*pictured*). "Our background is based on unique game interfaces such as motion and touch. We see the interface as a crucial part of a successful and fun game play. Our clients include publishers like Square Enix and technology companies like Intel."

Demonstrating the potential of Israeli games makers to make an impact beyond their nation's borders, Side-Kick now has a branch in the USA, and as well as making its own games offers production and development services for various platforms and needs, with particular expertise in depth sensing and motion control-based gaming.

So far its most high-profile games include Square Enix published Kinect game *Mini Ninjas Adventures* and iOS puzzler *Dr Jolt*.

And, like many developers in Israel, Bendov is optimistic about his home nation's games industry.

"The Israeli game market is quickly positioning itself as an exciting newcomer to Facebook and mobile," offers Bendov. "This trend will move from the current gaming themes and core games to mid-core and casual games, across current and new platforms, due to the local interest in technology and adaptability. I can't wait to see the first of the big publishers set an office here."

www.sidekick.co.il

Top-to-bottom: Gil Klein of Matomy and Niv Fisher of SpikySnail

Top-to-bottom: 'Goldy' of Playful Shark and Nimrod Dweck of eMaginarium

THE POWERS THAT BE

Yet, like any games industry hub, however successful, Israel has its challenges, and many agree wooing the attention of the government is particularly tough.

"There is currently no real government interest in the video games development sector, and it's not even considered an after thought," says Guy Ulmer, GameIS board member and software engineer at electronics design outfit Cadence. "It is as if the decision makers are not even aware what a multibillion dollar industry this is. The funny thing is that investment in the 'traditional' high-tech industry goes without saying."

The reality appears to be that the Israeli government has nurtured its high-tech industry with fervor, albeit with less recognition for games makers.

"There have been talks in the past, but in reality nothing has changed," offers Scoreoid's Koren. "Overall this is one of the biggest pain points in the Israeli games industry, and having government support can have a big impact. When you look at Ireland as an example there is a lot that can be done."

"But it's important to note that the government also invests in traditional art and media," suggests Ulmer, whose company is now trying to make something akin to that investment happen for games.

HIDDEN TALENT

Israel's games developers are faced with another challenge; one of staffing that will strike a chord with studios globally that must compete with giant hubs like that of Canada.

"With the lack of big local studios, finding talent with proven experience in game development will continue to be challenging," states an otherwise optimistic Niv Fisher, co-founder of Israeli indie SpikySnail, which has targeted Xbox Live Arcade with its *Splatters* series. "I have more than a few friends that had to relocate to Europe or North America to get to work in the games industry. They are immensely talented but just didn't have any local studio that could use their talent."

> ***"There is currently no real government interest in games. It is as if they are not even aware what a multibillion dollar industry this is."***
>
> Guy Ulmer, GameIS

Israel's games developers hope that, as their ecosystem grows and gains momentum, soon it will be them that are welcoming staff from overseas. And as such, some remain positive about Israeli's committing to stay within the local talent pool.

"There are many talented individuals in Israel, and working in the game industry is something that is very appealing for many of them – we have a thick layer of nostalgic folk who grew on commodore and PC gaming here," explains 'Goldy', studio manager at prolific developer and client work specialist Playful Shark. "You will find exceptional talent here in all game development related fields."

And the future generally looks bright for Israel's games industry, as VCs continue to show interest in the region, and the efforts of GameIS and the rest of the community of developers ripple out across the country. As giant organisations like Google continue to attract the talent and resource that is the final ingredient needed for any fledgling dev hub to flourish, Israel's ambitious games makers could soon see themselves rub shoulders with those already center stage in the international games industry.

The last word, however, must go to eMaginarium's Dweck, who finds a positive result in a challenge not just for Israel in its entirety, but much of the world.

"I think that living in Israel makes you looks at things a bit differently," he suggests. "Maybe it's the stress from living under the threat of terrorism and war on our borders – Hizbollah, Hamas and now the horrible civil war in Syria – that makes your mind run wild and seek some refuge. I found out that the imagination offers peace and quiet, and for me designing games is the most relaxing thing there is. I want games to promote peace and happiness, and make people feel good even though it feels that sometimes the world gone a bit insane." ■

Visual Studio and TFS:
A recipe for indie dev success

From the giants of social and casual gaming to spirited indies building for a lasting future in the games industry, Microsoft's integrated development environment Visual Studio is proving itself as a foundation for success, and, when combined with the indispensable Team Foundation Service, it's a vastly powerful platform for games makers

MICROSOFT'S VISUAL STUDIO has helped some of the world's most famous games makers build a name for themselves as iconic creatives, but the integrated development environment isn't a technology exclusively for the games industry's biggest names.

Far from it, Visual Studio 2012 and Visual Studio Express 2012 is in fact the perfect starting point for success for small, nimble gaming start-ups. Available through Microsoft's progressively minded BizSpark and DreamSpark programs – which support even the most youthful of studios with tools and assistance – the technology can kickstart a company's future, and backed by the Team Foundation Service, is something every developer should consider, whether they are making content for Microsoft platforms, or even, you may be surprised to read, iOS and other formats.

Microsoft Visual Studio 2012 is loaded with powerful capabilities for Windows 8, the web, SharePoint, mobile, and cloud development – as well as the application management lifecycle tools you need to break down team barriers and reduce cycle times to deliver value continuously. And the platform boasts efficient UI to streamline everyday tasks and kick your productivity into gear.

The Team Foundation Service, meanwhile, lets you plan projects, collaborate with your team, manage your code online, and most importantly, from anywhere. TFS lets you check your code directly into the cloud using Visual Studio, and manage work items and bugs in Internet Explorer, Chrome, or Safari.

Together, they can turn your nimble indie into a thriving games development powerhouse. Just ask King or Halfbrick. They're both profiled over the page, along with rising star Dlala Studios, where they explain how Visual Studio 2012 has played a vital role in their rise to the top of the pile.

The Visual effect

VISUAL STUDIO PROFILE: DLALA STUDIOS

A year ago, Dlala Studios was a relative unknown. The team remain a true microstudio, but backed by Visual Studio and Team Foundation Service, they have established themselves as a bona fide success

WITH LESS THAN ten weeks to develop a game coinciding with the launch of Windows 8, Dlala Studios needed a reliable, intuitive development and collaboration environment.

The company took advantage of the Microsoft Visual Studio 2012 integrated development environment and Team Foundation Service to ensure that its dispersed creative team could keep to its tight schedule and budget.

Dlala Studios is a start-up based in London in the United Kingdom. It's taken just seven months for Dlala Studios to gain ground in the mobile games market with the development and release of its game *Janksy*. Marketed as a 'space-based physics adventure,' *Janksy* provides players with fun, compelling gameplay and different levels to challenge themselves.

Dlala Studios was conceived after two friends – A. J. Grand-Scrutton and Craig Thomas – decided to branch out on their own after working on award-winning games for large companies. Chief executive officer Grand-Scrutton says: "We formed Dlala Studios in June 2012, and started off by prototyping and

brainstorming ideas for *Janksy* – then we got several more people involved.

"Initially, we were all working from spare rooms or our parents' garages."

In spite of the remote working set-up, all team members were committed to Agile development methods and used Scrum methodologies to ensure tight integration of the original concept and the final game.

VISUAL STUDIO INTERVIEW: KING

KING, THE RECENTLY renamed studio behind the successful *Candy Crush Saga*, is just one of many studios embracing Visual Studio. Here, the team explains what the technology means to them.

King's Pete Barber and David McEwan, and Candy Crush Saga, which has met with international success

How has King embraced Visual Studio in its recent work?
Pete Barber, Developer: We are using Microsoft Visual Studio for all of our mobile development in the London Studio. When we opened a studio in London in summer 2012, we evaluated different development environments and settled on using the Microsoft Windows as our primary OS and Microsoft Visual Studio 2012 as our main IDE.

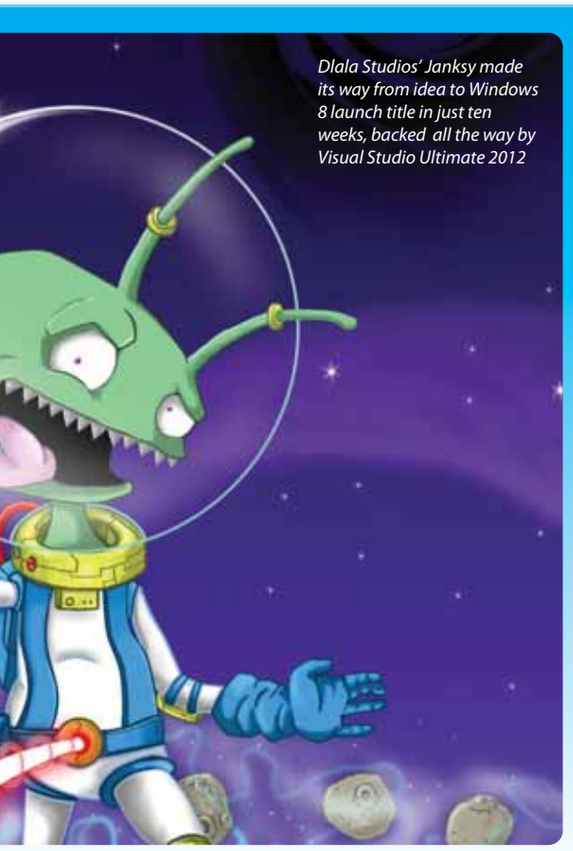
How in particular was Visual Studio relevant to a studio of your size?
Volodymyr Kazantsev, Product Manager: We realised that the majority of experienced C++ developers are very familiar and comfortable with Visual Studio. We have to use other IDEs when we work with other platforms, and developers often feel that features are missing in those other IDEs.

What about the need to constantly update games of the kind King creates?
Kazantsev: The mobile games market is extremely dynamic and we have to react quickly. We found that Visual Studio doesn't get in our way and we can focus on the actual product. We have to take risks and experiment in many technological and product areas. We don't want to take risks in places where it is not required, like the IDE.

How has using Visual Studio let you better organise the workflow of your teams?
David McEwen, Developer: Although we're targeting multiple platforms it provides a single common development environment which means developers can assist each other and are immediately familiar with the tools. Mercurial is our primary SCM so the Visual Studio integration means we don't need to leave Visual Studio in order to view file history and commit changes etc.

How does Visual Studio help you develop for non-Microsoft platforms?
McEwen: We use C++11 as our primary language for iOS and Android games development. Visual Studio enabled us to create a dynamic and extendable working environment. Moreover, our engine allows us to run our games inside the Windows shell. Therefore we can shorten our 'write > compile > test' cycle a lot, since we don't need to deploy to the device every time we change the particle effect or fragment shader.
about.king.com/jobs

If you want to see how Visual Studio can help your team prosper then look no further than the companies large and small that have used the technology to push their games into the limelight and beyond. From a UK indie that really did start out in a garage, to the studio behind a global sensation, Visual Studio has had a role to play



Dlala Studios' Janksy made its way from idea to Windows 8 launch title in just ten weeks, backed all the way by Visual Studio Ultimate 2012

"We were finding our existing software challenging to use – we couldn't get the hang of it," says Grand-Scrutton.

Although the small team was busy with development, the founders took some time out in July to attend the 2012 Develop Conference in Brighton. The event became a turning point for the company after Grand-Scrutton and Thomas approached the Microsoft stand.

"We'd already considered developing *Janksy* for the Windows 8 platform because it was a fresh market with lots of opportunities. We felt that we'd have a really tough time breaking into the Android and iOS market, which are filled with games already," says Grand-Scrutton.

With less than ten weeks to the release of Windows 8, Dlala Studios had just a short time in which to develop *Janksy*. Grand-Scrutton and Thomas decided to take full advantage of Microsoft support for app developers by joining the Microsoft BizSpark programme, and using Microsoft Visual Studio Ultimate 2012 with Team Foundation Service.

"As a web-based, application lifecycle management solution, Team Foundation Service provided us with the tools we needed to work from different locations easily," says Grand-Scrutton.

"It was fantastic and so intuitive that we were able to start using it straight away."

As project manager, Grand-Scrutton was grateful that through Team Foundation Service he could allocate and track work, keeping a tight rein on development costs.

"It's a highly visual environment, clearly laid out and easy to follow," explains Grand-Scrutton.

For example, with capacity planning, Grand-Scrutton could track workload and capacity by individual, team, or activity level.

Team Foundation Service is tightly integrated with Visual Studio 2012. Project operations and development tasks are viewed from the same customisable dashboard.

"Integration with Visual Studio 2012 is excellent, so all the elements involved in creating a high quality game such as version control, work item management, and bug tracking – are transparent and clearly documented," explains CCO Thomas.

As a dispersed development team, tools to review code and check for conflicts – such as branching, merging and check-in/check-out policies – were invaluable. As soon as a team member had completed a task or tweaked code, the data was immediately updated on the dashboard. Dlala Studios completed *Janksy* in time for the release of Windows 8 and was delighted to see it thrive in the Windows 8 store.

"We completed the game in nine-and-a-half weeks, and were able to take advantage of the hype around Windows 8 to maximise its success. The support from Microsoft has been amazing," concludes Grand-Scrutton.

www.dlalastudios.com

VISUAL STUDIO INTERVIEW: HALFBRICK

HIT FACTORY HALFBRICK has charmed gamers with famed titles like *Fruit Ninja* and *Jetpack Joyride*, and it's done so with Visual Studio at its core. CTO Richard McKinney explains why the technology is so vital to the studio's success

Halfbrick's CTO Richard McKinney, and the outfit's hugely popular, influential game and global brand Fruit Ninja

How has Halfbrick embraced Visual Studio in its recent work?

Richard McKinney, CTO: Visual Studio is at the core of every game we make at Halfbrick. Every project, regardless of the end deployment target, begins its life as a Visual Studio project on Windows. The super-fast turnaround time, best-in-class debugger, and extremely friendly user interface let us rapidly churn out the core of a game. If we need to use a different IDE for a particular device, we generally have tools in place to convert over rapidly.

Because we have those tools, and have abstracted our engine so the game teams rarely have to worry about what platform they're building for, we're able to develop even iOS apps mostly in C++ in Visual Studio, run our project synchronisation tool, and then use XCode for creating platform level features, deployment and testing.

How in particular was Visual Studio relevant to a studio of your size?

We've grown a good bit in the last few years. Just about everyone in our industry is already familiar with Visual Studio, and if they're not, it's super-easy to pick up and immediately be productive. Because it's also the premier C# development environment, guys who aren't as familiar with C++ will still feel comfortable using it.

How has using Visual Studio let you better organise the workflow of your teams?

Most of our programmers spend the majority of their days using Visual Studio. Platform specific features may be completed on other operating systems and development environments, but those are usually done by the engine or platform teams and abstracted away from them. That lets our five game teams remain in a comfortable environment. If they want to test something out on Android, they just have to change the platform dropdown to Android and hit F5 and they're in a debug session on-device.

What would you say to a studio considering adopting Visual Studio for the first time?

Assuming you're using C++ or C# for the majority of your code, once you started using it, you'll find it very difficult to justify moving away from. Visual Studio is the best IDE available today for developing games.

www.halfbrick.com

A foundation for success

What could Team Foundation Service mean for your studio?

FOR SMALL INDEPENDENT studios and start-ups, agility can be your greatest strength. It's something triple-A teams can only dream of. But agility alone isn't always enough. You need to be able to think fast and work faster. And what's the fastest way you can speed up your game's development? It's simple; by leaving your infrastructure to someone else.

That's where Team Foundation Service comes in. In short, it provides your team with an end-to-end, cloud-based application lifecycle management solution that handles everything from version control and code reviews to agile planning and automated builds. And best of all, you can access it from just about anywhere.

Built to work in tandem with Visual Studio 2012 and Visual Studio Express 2012 and through the cloud, Team Foundation Service lets you organise your workflows, plan your projects and maximise efficiency, arming you with abilities that not so long ago were the exclusive reserve of giant studios with vast budgets. From maintaining version control to tracking bugs, the abilities Team Foundation Service provides to a start-up is quite incredible.

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Focus on your code. We'll simplify the rest.
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Embracing Team Foundation Service can help you take full advantage of being a nimble indie

The platform lets you move from sign up to your first project in just minutes, and set up a Continuous Integration build in a few easy steps.

Furthermore, as our source code and work items are stored in the cloud, server configuration has become a thing of the past.

Once you start to work with Team Foundation Service, you'll never look back, meaning you can focus on moving forward.

tfs.visualstudio.com

Want to try Visual Studio 2012 and Team Foundation Service yourself?

IF YOU OR your team want to learn more about what embracing Visual Studio 2012 could do for your studio, or how Team Foundation Service could change the way you make games for the better; it couldn't be easier.

Microsoft provides a wealth of resources, information and advice to assist you in making the technology part of your everyday work.

To experience Visual Studio 2012 first hand you can start by visiting **www.microsoft.com/visualstudio** to download a free demo and begin using the technology for yourself.

And if you're looking to understand just how significant Team Foundation Service can be for developers of every size, be sure to check out **tfs.visualstudio.com** for plenty more on how to go about improving your studio infrastructure.

Alternatively, if you prefer a more direct approach you can contact **UKVS@Microsoft.com** and ask the questions you need answered.

BizSpark: Get your fast start

- Microsoft BizSpark is a global programme that helps software start-ups succeed by giving them free access to Microsoft development tools, including Visual Studio 2012
- BizSpark also connects start-ups with key industry players, including investors, and provides invaluable marketing visibility
- BizSpark is available to all active developer start-ups that are privately held, in business for less than five years, and bring in less than $1m in annual revenue
- The Microsoft BizSpark programme strives to help young and innovative software companies gain valuable experience and expertise in Microsoft technologies, with no upfront costs

Get involved!

If you think BizSpark could be what you need to get your studio making games that get played, why wait? You can find out all you need at the initiative's official website, and begin the application process.

www.bizspark.com

DreamSpark: Make it a reality

- DreamSpark is a worldwide initiative available in 149 countries, providing no-cost access to Microsoft design and dev tools for verified students and educators, so as to advance their learning and skills
- DreamSpark gives you the chance to develop the technical skills that are driving the most valued platforms, like social media, cloud, mobile apps, tools and games
- Over 66 million have downloaded DreamSpark-related software since the programme started, and over 8.1 million students actively use software from DreamSpark on a daily basis
- Tools available include Visual Studio Professional 2012, Visual Studio Express 2012 for Windows 8, the Kinect for Windows SDK, Small Basic and XNA Game Studio 4

Get involved!

Finding out more about DreamSpark couldn't be easier. Visit the official website now, and your could kick-start the career you've always dreamed of.

www.dreamspark.com

Interested in developing game apps for the Windows 8 and Windows Phone platforms?

If so, Andrew Webber would love to hear from you. Andrew is Microsoft's point of contact for all things UK indie game development on the Microsoft Windows platforms. Andrew is also there to help give visibility to studios, app developers and their games through the marketing activities he manages. Contact Andrew at **andrew@microsoft.com**

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Creative Clyde in play

Glasgow's Creative Clyde is becoming a thriving games industry hub, where costs are low and support is plentiful

A 3D render of the Glasgow Urban Model (above), created by the Digital Design Studio, Glasgow School of Art for Glasgow City Council

RECENT YEARS HAVE witnessed a remarkable transformation along the banks of the River Clyde in Glasgow, once famous around the world for its shipbuilding industry.

The latest project to underline the economic renaissance of this famous waterway is Creative Clyde.

Led by both Scottish Enterprise and Glasgow City Council, Creative Clyde aims to create a flourishing, vibrant centre for media, technology and other creatively minded businesses.

Everything from web and digital media to animation and software; from film, TV and radio to advertising, publishing and design is supported by the project.

And, of course, so is games development, where the city has a strong cluster of highly innovative companies.

LEADING EDGE WORK

A great example of this is demonstrated at Glasgow School of Art's Digital Design Studio, which hosts one of Europe's largest labs for 3D visualisation.

Another superb example is Axis Animation, which creates stunning animation for some of the world's leading names in games, as well as in broadcast and film. Its work has won numerous industry accolades – including the prestigious Imagina Grand Jury Prize.

> ***"Organisations in the Creative Clyde region are part of a connected cluster of over 80 games companies across Scotland."***

Recently, proving Creative Clyde's ability to host world-leading games development projects, Axis Animation has also partnered with 343 Industries on the critically acclaimed *Halo 4* episodic series *Spartan Ops*.

And, illustrating the diversity of the city's burgeoning games cluster is the groundbreaking eMotion Lab at Glasgow Caledonian University.

Developed to capture the subtle palette of human emotion, the lab examines players' physiological measures of involvement with games, monitoring the likes of pupil dilation and gamepad techniques.

It's pioneering work that sets a global standard, and the lab's high-profile clients include esteemed companies such as Microsoft, Genuine Games and Onisoft.

A DYNAMIC CLUSTER

Those organisations and others in the Creative Clyde region are part of a dynamic environment and connected cluster of over 80 games companies across Scotland; a number many significantly larger areas struggle to rival.

Creative Clyde and the other games clusters throughout the famously progressive nation of Scotland offer a cost-competitive location, and can provide a wide range of financial and training support for games developers of every kind.

Software programmer costs, for example, are over 40 per cent lower than those seen in hubs across the world such as New York City and California.

TALENT PIPELINE

What's more, there is in the Creative Clyde area a ready availability of skills and experience set to support future growth across games development and the numerous related sectors and industries.

And it doesn't stop there. The pipeline of future talent is addressed, for example, through Glasgow's four highly regarded universities, the renowned Royal Conservatoire of Scotland, Glasgow School of Art and 12 further education colleges.

Between them, those establishments produce thousands of graduates each year, with qualifications directly relevant to those needed throughout the digital and creative industries.

> ***"There is in the Creative Clyde area an availability of skills and experience set to support future growth across games development and the related sectors."***

SUPPORT AVAILABLE

In recognition of its work, Creative Clyde has even been awarded Enterprise Area status by the Scottish Government. And the public sector partners behind Creative Clyde work closely with inward investors, offering a wide range of support, from potential funding in the form of equity investment and grants, to support staff development and training costs.

And there is yet more reason to locate in Creative Clyde, especially as the area's focus on supporting start-ups is second-to-none.

A great example is the brand new 1,700 square foot Creative Clyde Business Incubation Centre, located at Pacific Quay. The vast facility provides rent-free office space, and a mix of intensive business support and a nurturing environment to accelerate business growth.

The ambitious new incubator aims to work with over 90 new companies over the next three years.

For more details on Creative Clyde and the wealth of innovative, creative organisations based there, visit **www.creativeclyde.com** ■

The Spartan Ops episodic expansion to 343 Industries' Halo 4 (above) was the result of a partnership with acclaimed Creative Clyde area company Axis Animation

Consoles and classrooms

What will the next generation of hardware mean for the future of video games education and the new school of development students? **Aaron Lee** gathers early reactions from the experts to find out more

Top-to-bottom: Andy Thomason of Goldsmiths, Creative Skillset's Saint John Walker and SCEE's Maria Stukoff are intent on helping student developers (main image) embrace the new generation

THE ARRIVAL OF a new games system still produces an energy like nothing else.

It's a chance to take a leap forward, and to inspire those who may one day become the games designers of the future.

Right now, of course, the games industry, particularly in the UK, is in desperate need of fresh talent. A report by the Next Gen Skills council earlier this year warned that the UK's skills gap is continuing to widen, with a little over 3,400 A-level students choosing to study computing in the 2011/12 academic year.

With Sony's PlayStation 4 on the way, as well as a new Xbox, what affect, if any, can we expect these new games systems to have on games education?

CODING STANDARDS

In recent times, consoles have been criticised for struggling to widen the gaming audience. Smartphones and tablets, and the billions of apps available to users, have stolen the entertainment spotlight from the traditional, purpose-built platforms.

Yet, it's these mobile platforms – the architecture behind them and the thinking that goes into creating the pick up and play mobile experiences that have become a hit with millions – that Andy Thomason, lecturer in computing at Goldsmiths, University of London, believes is going to change next-gen consoles for the better.

"These new consoles are going to have a lot more cores so [students] can do multithreaded programming and embrace multi-core architecture," says Thomason.

"That's true on all platforms, even mobile. The Vita has a four-core CPU, for example."

Multi-core processing is one factor that's made the mobile devices in our pockets so much more powerful. The flexibility of programming languages such as Java and C# has made them popular for mobile OS and web-based games development, and Thomason foresees similar movement so far as games courses and next-gen consoles are concerned.

"We're moving to games that are almost 100 per cent script-based, such as Unity, Flash or HTML5 games. These have got a much higher script content than the games of the 1980s," he says. "In ways, the web is the new Sinclair Spectrum. People can pick up web programming very rapidly a make something work. And I like to think people are using web programming to learn the kind of fun programming that we learned back in the 1980s and '90s."

> ***"These new consoles are going to have a lot more cores so students can do multithreaded programming and embrace multi-core."***
>
> Andy Thomason, Goldsmiths

Thomason anticipates dynamic languages like JavaScript becoming more important in the future, and suggests that the "low-level skills" students learn on mobile platforms are just as applicable to consoles. (*Read 'A brief history of coding' for more.*)

AN EDUCATED GUESS

There's certainly no shortage of university games courses encouraging their students to experiment with devices such as iPhones and Raspberry Pi computers. But a common complaint from computer science tutors is that technology is constantly moving faster than the curriculums can keep pace with.

Creative Skillset is the UK's industry-led accreditation body that recognises courses that best prepare students for work in the creative industries. The body's 'Tick' kitemark indicates to students and employers that the skills and knowledge taught on the course match those required by industry. There are now 18 accredited computer games courses in the UK, which have each undergone inspection by development professionals from SCEE, Ubisoft, Blitz and others, reviewing areas including graduate employment, work experience and links with the industry itself.

Saint John Walker is Creative Skillset's head of development, and his team leads the accreditation assessments for computer games courses.

"Good courses are flexible enough to have coped with such paradigm shifts before – some had to adapt to the advent of PS3 and Xbox 360 and more recently Android, iOS and Kinect," offers Walker. "It helps that Sony has always been pro-active about advising and

supporting our accredited courses, rather than seeing them as a revenue source. We've always been impressed with Sony's engagement with trying to ensure the best UK courses continue to improve."

The courses that have shown a high-level of quality engagement with industry, he adds, will no doubt be in discussion with their industry partners about the implications for their curriculum that PS4 may bring.

UNDER THE HOOD

Much has been made of PS4's 'PC-like architecture' and the perceived accessibility it will mean for developers. Further to Thomason's comment about dynamic languages being an important focus for courses, he suspects that there will be some attention to make programming easier on PS4, and points to the steps Sony has taken with PlayStation Mobile as an indicator.

PlayStation Mobile is not unlike an XNA for mobiles and tablets. It allows anyone from its 11 available countries to register as a PSM developer. Those looking to publish their wares to the wider world can pay the annual publishing licence fee – £65, €80 or $99 – which is comparable to what Apple and other third-party publishing vendors charge. In the classroom environment, PSM gives students the means to experiment right away on the platform, helping them to gain confidence and move up the skill tree faster.

"They'll probably extend this PlayStation Mobile platform to the console as well, so people can tinker with it," Thomason predicts.

How exactly Sony plans to approach education in light of its new platform and the changes games development is going through won't be clear for some time. One woman who will be at the forefront of this though is PlayStation's head of academic game development Maria Stukoff, whose academic partnership programme works with universities to help students gain the skills needed to master the PlayStation platforms.

"PlayStation First is all about fostering the next generation of PlayStation-savvy developers. Through our unique dev kit programme we aim to respond to the ever changing digital entertainment landscape and provide talent access to the newest and best games development tools to explore and innovate with PlayStation technology," explains Stukoff.

"Through our partnership programme, we ensure that PlayStation tools are integrated into course curriculum and we impart best practices to students to develop games across all PlayStation platforms," she adds.

CONSOLE COMPLEXITIES

Expect there to be more analysis of PS4's technical specifications and what they mean for games development in *Develop* in future.

Right now, though, we asked Skillset's Walker whether PS4, and other next-gen platforms, could end up producing new complexities for games education.

"It will depend on two factors," he says, in response. "Firstly, student expectation. With the increase in fees and a system where students are encouraged to shop for courses like consumers, it may be they demand access to PS4, assuming, in our view wrongly, games education is all about the latest kit. The second factor will be Sony's approach to the best universities, allowing tutors access to make up their minds on how they might incorporate such a development.

"Complexities could emerge around the type of games that might become popular on the PS4. We'll need open-minded students who aren't scared to try out new genres that take advantage of the 8GB of RAM and a x86 processor, like open world gaming, new social connectivity or cross-media genres we haven't envisaged yet."

Taking it back to programming, Walker is clear about the bare minimum students should learn, and will continue to need for the coming games platforms: "Certainly C++, the mainstay of our games programming courses, is here to stay. For our accredited courses, we have a range of criteria our industry assessors – including SCEE games people – look for in a course. It's not just about the kit; we look for solid maths ability, skills in fundamentals of compilation and optimisation strategies."

> ***"Through our partnership programme, we ensure that PlayStation tools are integrated into course curriculum."***
>
> Maria Stukoff, SCEE

MORE THAN GRAPHICS

It's too early to tell just how PS4 will impact games education or indeed how tomorrow's students, with their knowledge of mobile and the web, will acclimatise to the system.

As for the next Xbox, we'll have to see what Microsoft has in store. Although, recent decisions, such as ending support for its XNA development toolset, aren't the actions of a platform holder that has games education high on the agenda for its next console.

Much of the focus in the current generation has revolved around resolution and graphics, with games such as *Heavy Rain* celebrated for tapping the uncanny valley. That's not what we can expect from the next generation, our experts say.

To take projects from concept to completion, Andy Thomason predicts that a major factor will be how robust the network aspects are.

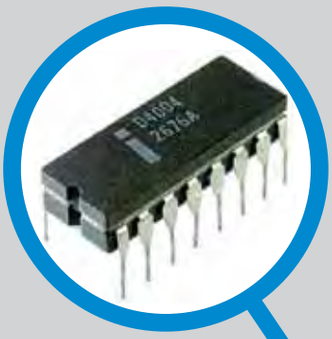
"If you can make something fairly quickly, you can prototype it and put it up on PlayStation Network, and that thing can be seen by many people, and that's going to be a good route into games development for aspiring games developers," he says.

And Walker too, believes that it will be the connectivity between the next generation consoles and other devices that will define what they mean for academia and industry.

"If the new PS4 does make it easier to develop, as claimed, then that will mean more students will choose it. But, as opposed to the current-gen where the obsession was with graphics, this time it may well be about the social aspect of such connectivity," Walker concludes.■

A ROUGH HISTORY OF CODING

Lecturer Andy Thomason on how coding has changed, and what students need to know



1970s | EARLY DAYS OF MICROPROCESSORS

In the 1970s machine code was written by hand in hex and memory was around 256 bytes. By the 80s, assemblers were fairly common, as computers had as much as 16k of memory.

1980s | THE RISE OF C

Assembly language persisted up to the 90s in games, when C compilers started to improve. Now we had several megabytes of memory, but assembler was still used for speed in critical parts of the code, usually as inline assembler in GCC compiled code.

1990s | C++ ACCIDENTAL DAMAGE INSURANCE

Game studios started to get serious about coding standards, especially thoses like Psygnosis, where I worked. There was a push to use C++ as a defence against accidental damage to large code bases by programmers. We started to use source control for almost everything.

2000s | BYTECODES FOR BEGINNERS AND BEYOND

C++ is still the language of choice for most triple-A titles, but is constantly challenged by newcomers such as Java and C#, which are easier to use, especially in the web and mobile sectors. Memory management in particular is much easier

PRESENT | THE DYNAMIC FUTURE

Dynamic languages such as PostScript, Python, VBscript and Javascript have been around since the early 80s, but their ease of use has made them dominant in the web programming era where performance is not such an issue

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BUILD

THE LATEST TOOLS NEWS, TECH UPDATES & TUTORIALS

Rapid2D profiled p49

Go West

Middleware outfit Silicon Studio – tech provider to Square Enix for its Agni's Philosophy demo – wants to show the West that Japanese tech can deliver something distinctly special, p44

Somethin' Else's PapaEngine p48

Marmalade Juice uncovered p52

Big in Japan

If you thought the ambitions of Japanese middleware providers stopped at the country's borders, think again. Silicon Studio is taking Yebis 2 to a global audience. **Will Freeman** asks the outfit what it has planned

Silicon Studio's Colin Magne and Mike Haruki Yamazaki (above, left-to-right) are intent on making their middleware a success in the West

MIDDLEWARE FROM JAPAN is often off the radar of developers in the US and Europe, with preconceptions about the country's business culture painting a picture of insular studios and closely guarded tech.

But among the numerous Western technology companies announcing support for the PS4 in recent weeks, Japanese middleware specialist Silicon Studio confirmed that its real-time post-processing graphics solution Yebis 2 is now available for developers working on games for the console.

And Silicon Studio isn't stopping with support for Sony's coming platform. The company is intent on bucking convention and sharing its technology with studios across the globe.

Already a stalwart of the Japanese sector, it's now focusing on showing developers that middleware made for Eastern needs can bring a unique flavor of game technology to the West.

Develop caught up with Silicon Studio general manager Colin Magne and the company's international relations man Mike Haruki Yamazaki to learn more about Yebis 2 and the company's Western ambitions.

For our reader's who aren't aware, what is Silicon Studio's story, and what kind of tech do you provide?

Colin Magne: The company was established in the year 2000 and since it has been concentrating on creating middleware for many platforms for the entertainment industry, and mostly for video games.

> ***"We started working on Yebis ten years ago to meet Japanese developers' needs, studying how lenses in real cameras worked."***
>
> Colin Magne, Silicon Studio

We have a strong history creating middleware for consoles, but now we basically cover every platform.

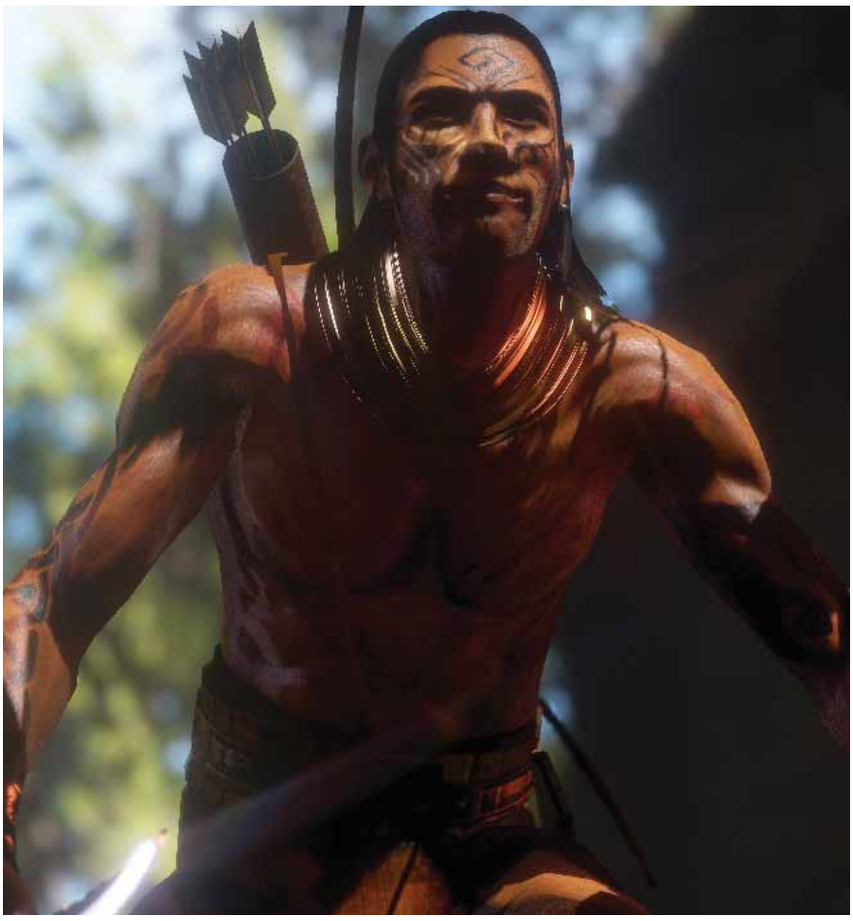
Our middleware is for computer graphics, either just libraries or full engines. We try to be in a wide part of the video games middleware business. Until now we have concentrated on the Japanese market; we're 100 per cent a Japanese company, and now we're trying to broaden our products' visibility to provide them abroad.

We believe that some of our products, such as our post-processing library Yebis 2 are so easy to use and adaptable it would be suited to the European or American markets.

Considering the middleware needs of Japanese developers, do you feel you've developed a product that will be particularly distinct in the West?

Magne: I would say that each middleware has it's own story, and that's very true with Yebis 2. Japan, as a country, has always had developers that, among other aspects, are concerned with deep details and a perfection for graphics; the kind of thing you see in game cut-scenes from Japan. They want that realism of detail. I saw that straight away when I joined the company almost ten years ago, after working in France and the US.

In Japan, even the games engineers who are not artists have a sense of the importance of the quality of the graphics in terms of those realistic details. So we started working on Yebis ten years ago to meet Japanese



WHAT IS YEBIS 2?

YEBIS 2 IS a real-time post-processing middleware that introduces 'physically-based' optics simulation and high-end lens effects to current and next-generation development. Yebis 2 is a foundational middleware solution for triple-A next-generation gaming.

Available as a library, it offers studios access to the likes of multi-colour customisable glare effects, depth of field effects, motion blur and HDR rendering effects. Designed to be easy to install, Yebis 2 supports DirectX 11, and is built around a proprietary algorithm that strives to balance quality, speed and performance. A free trial is available via **www.siliconstudio.co.jp/middleware/yebis/en/trial.**

developers' needs, studying how lenses in real cameras worked, looking at things like how light is diffracted and lens effects, and getting a lot of knowhow before making this 'physically-based' system that mirrors what real cameras and the human eye does. And now we can take that to other countries away from Japan.

And as you take this technology from Japan to the rest of the world, what kind of studio are you targeting? Who is the technology for?
Magne: We are still investigating this and figuring things out, but our first feeling is that Yebis would be perfect for medium-to-large sized studios. That's because we have proved ourselves in that space in the Japanese market, working with some very big studios, who have figured out they can save themselves a lot of time working with our products.

Mike Haruki Yamazaki: And we just released Yebis 2 for PlayStation 4, so on one hand we are focusing on serving next generation developers that are working on their triple-A titles with bigger budgets and the resource to invest in post-processing effects.

But on the other hand we are also targeting mobile developers as well, because that market is so huge. So this year we'll be releasing a mobile version of our Yebis lens effects library. So that's another target audience; our tools are suitable for a lot of different developers.

Beyond that focus on mimicking light's role in the way we see the real world, what are Yebis' most unique or distinct features?
Magne: I've never seen on the market anything comparable to our Yebis middleware. Some of the big engines like Unreal or Frostbite have their own technological post-processing, but it is kind of a subset of what Yebis 2 does.

The post-processing in those engines is very good quality and powerful, and made for the needs of what they want, but as Yebis 2 is a library it fits everybody's way, and it is very flexible, so we can balance performance and quality very easily. In that sense as a post-processing middleware we don't see any competitors yet.

There's a stereotype in the West that Japanese games businesses are very private. Is there a truth to that, and if so, why is Silicon Studio bucking that trend?
Magne: The fact is that Japan has a very distinct culture compared to America or Europe. Of course, within Europe there are many business cultures, but still they are in a way similar, at least compared to Japan. The way of thinking in Japan is very different, which makes understanding each other more difficult, and it means people need to be more open and understanding. There is a lot of misunderstanding around that, so we try to be very open. We are a very international company in terms of our staff, and we have a wide range of those from outside Japan at the company.

Haruki Yamazaki: And because our CEO and our chairman are people that have lots of business experience in the States and Europe, they know those cultural differences very well. That makes our company very flexible and able to adapt to different standards and practices. We can take what we know about fitting business for non-Japanese partners because of our senior team's experience, and because of the variety of nationalities we have in our team. We are an international company in our mindset, but we happen to be in Japan with the knowledge of that market.

What studios in Japan have you worked with through your middleware?
Magne: We have worked with all the major Japanese studios, and many other game studios. We know the business in Japan very well and have adapted to the customers in that sense.

Haruki Yamazaki: Our middleware was used in the *Agni's Philosophy* demo from Square Enix, which they used to show the possibilities of the next generation, and they integrated Yebis 2 into the Luminous engine. We are also working with one Western company now with Yebis 2, but for now the company and what they are working on remains confidential.

And what would you say to a developer trying to decide if Yebis 2 is for them?
Magne: Firstly, Yebis 2 is very easy to integrate, so the process of fully integrating and then tuning with the artists is very, very quick, and would take just a day.

But there is something else. It changes the atmosphere of a game's graphics; it transforms those very clear, sharp visuals that are clearly made by a computer, and makes them more analogue in their feeling.

So it makes your graphics more realistic in that way, even when you start with a relatively low-capacity rendering engine. It is not too demanding in that regard, because we can take any image and treat it in post-processing. ■
www.siliconstudio.co.jp

Yebis 2 can give games, via post-processing, a wealth of details such as lens flare and depth-of-field focus (above, left)

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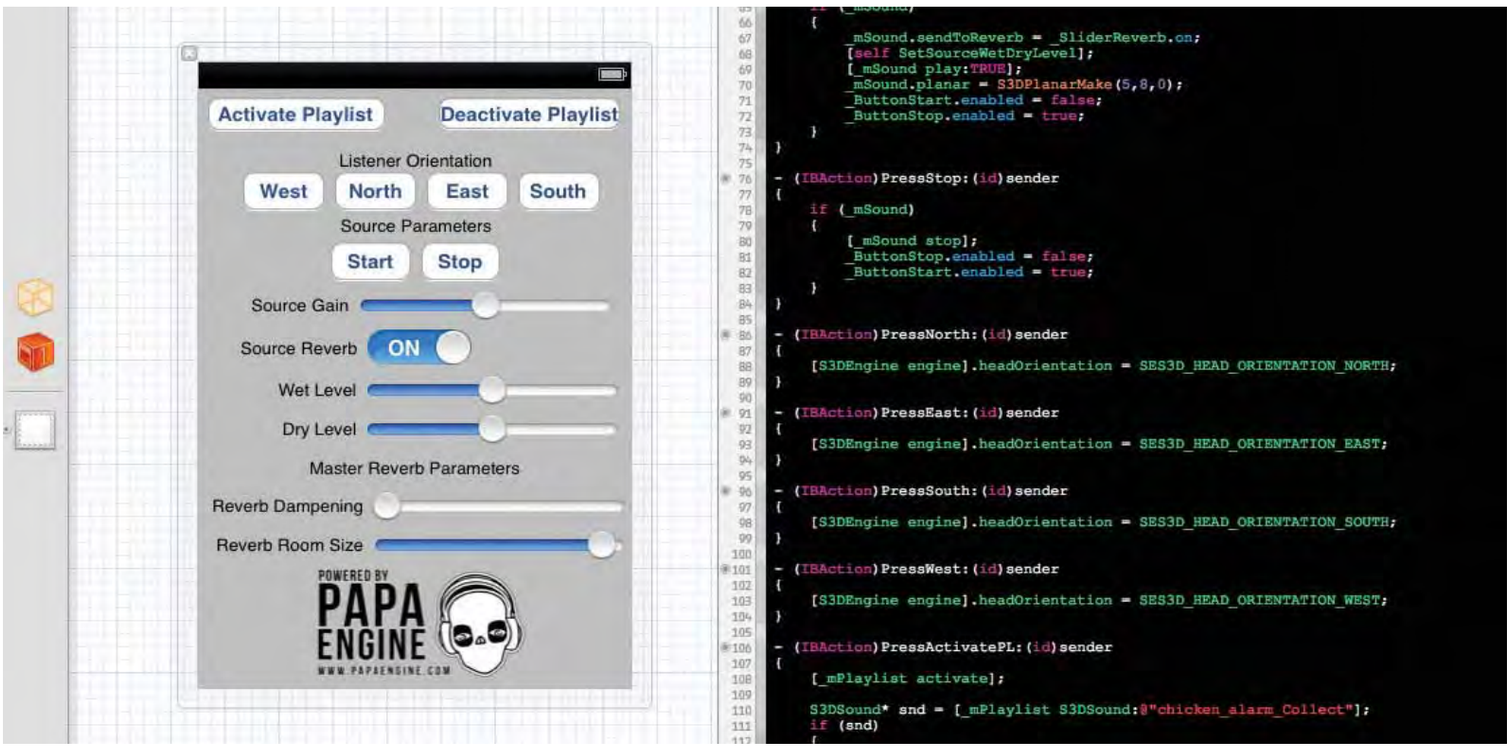
KEY RELEASE

Will Freeman tunes in to an engine designed for spacialised audio creation

What is it? The PapaEngine provides a streamlined way to spatialise a mono sound source in a 3D space, offering binaural sound without the need for complex recording
Company: Somethin' Else
www.papaengine.com



Top-to-bottom: Neville Daniel, Nicky Birch and Paul Bennun believe their PapaEngine (main) can establish 3D audio games as a genre of its own

WHEN EAST LONDON outfit Somethin' Else developed mobile game *Papa Sangre* it created a very special title.

The game, loosely themed around the Mexican Festival of the Dead, turned convention on its head, offering a detailed world where visuals played second fiddle to audio. Quite simply, it was a game you could play with your eyes closed, that challenged users to understand a 3D space with their ears.

And now the company has refined the binaural tech behind *Papa Sangre* and released it as a middleware solution.

"The PapaEngine lets you spacialise mono sounds, so you can position those sounds in the space around your head, in true binaural audio," explains Somethin' Else's head of products Nicky Birch.

In other words, it lets developers build a 3D soundscape via a simple API library, and its greatest strength is that it provides such binaural audio for mobile titles.

FROM EAR-TO-EAR

Binaural audio typically uses a special recording technique – using a dummy head with two microphones placed in detailed representations of human ear canals – that offers playback through headphones that simulate the real world experience of hearing sound in a 3D space. With the PapaEngine, however, developers can create a binaural soundscape without the need for a binaural recording session, taking their existing mono audio files and placing them into a mobile game world.

And, says Somethin' Else's CCO and executive director Paul Bennun, the engine fills a surprisingly empty gap in the middleware market.

"We've found that there's nothing, actually, in terms of audio of this kind, that's really optimised for mobile," he explains. "And we haven't made this as some small, alternative engine. The sophistication of the PapaEngine is way up there, and it's got a couple of things that are unique about it; namely its binaural abilities. The fact that it can do proper binaural on the fly processing for mobile is really important. OpenAL can't do it, and there's a bunch of other desktop based solutions that can do head related transfer function-based on the fly binaural processing, but this is the only one that can perform like that on a mobile device."

> ***If you want to do spacialised audio on mobile, the success of Papa Sangre shows that PapaEngine is the best option.***
>
> Paul Bennun, Somethin' Else

Conceived to serve developers and mobile games of every kind and size, the PapaEngine is also a solution with ambitions for establishing 3D audio games as a genre in its own right.

"To a degree, as we make audio games, which is a genre that barely exists. We realised we could help create more potential in our specialty," offers Birch. "If we get this platform out there, then it will help us lay a foundation for a bigger audio game market."

And the engine does much to take the pain out of positioning aural objects in a 3D space, letting studios devote time to their creative endevours rather than crafting tech.

"Our API puts a piece of technology into the hands of developers who can then be as creative as they want," states Somethin' Else digital project manager Neville Daniel. "If you've got a large-scale idea, then our technology means you can facilitate that. It's as powerful as your aspirations really."

The PapaEngine's architecture focuses on minimising memory usage, and while it is currently dedicated to iOS, Somethin' Else is considering adding Android support.

HEAR GOES

"At the very top level it's a very simple library for a gameplay developer to be able to, for example, set up a room environment with a certain size and therefore a certain sound to it, with characteristics such as reverb and distance between objects," says Daniel, returning to the core function of the PapaEngine. "You can set up all these properties using simple set events, and then you can place objects in positions within that room, and the PapaEngine will let the player understand where sound is coming from."

And that, insists Bennun, means developers with pioneer spirit can push their games into a new realm.

"Spacialised audio is the next frontier of immersion. And if you want to do spacialised audio on mobile, the success of *Papa Sangre* from a technical and artistic perspective shows that PapaEngine is the best option."

With *Papa Sangre 2* in development, and the original game being reworked with the PapaEngine, it's a busy time for Somethin' Else.

Those interested in licensing PapaEngine, which is soon to be released, should contact: **hello@papaengine.com**. ■

MICROSOFT SPOTLIGHT

A world record-breaking game jam was the catalyst for a games engine that's become a one-stop tool for Windows 8 development

Rapid2D
Developer: Rapid2D
Who are they? A team of virtual reality design and coding experts that decided to create a games engine for Windows 8 last autumn
What is it? A low-cost game engine that allows developers to deploy games to Windows desktops, tablets and mobiles
www.rapid2d.com

IT'S FITTING THAT an engine spearheading indie and first-time games development on Windows 8 was first conceived at a game jam.

Rapid2D is billed as an affordable answer for both budding and established developers to produce high quality apps for Windows 8.

The duo behind the engine, Myra Smallman and David Fletcher, wanted to create an engine suitable for novices through up to advanced developers. Smallman is a lecturer for Train2Game, while Fletcher is an award-winning expert in virtual reality design and coding, and the lead programmer for Rapid2D.

"It's been an intensive and highly demanding road to bring this flexible, adaptive and advanced engine to market, but already we have seen hundreds of games published using the Rapid2D engine," Smallman tells *Develop*.

An early version of Rapid2D was originally developed for use at a world record-breaking game jam in September 2012. During the 48-hour game jam, which was held at Bedfordshire University in Luton, all the teams used Rapid2D and published over 40 games to the Windows Store. Some of the games created include *Goblin Guts*, *London Breaker*, *Captain Proud* and *Royal Pigeon*.

The game jam was organised by Train2Game, and Smallman explains that Microsoft played a crucial part its success.

"Microsoft worked with us throughout the preparation and during the game jam. Their staff stayed awake, along with Rapid2D staff, for the entire 48 hours. We achieved the official Guinness World Record for the largest game jam in a single location. Two hundred and ninety-nine people used the Rapid2D engine to produce over 40 games, all of which have been published to the Windows 8 Store," she says. "With the huge success of the engine at the game jam we decided to develop it further."

LAUNCH PAD

Rapid2D is specially designed for the production of games and apps for Windows 8 – its arrival on the indie scene and its early success were part of reason for its inclusion in *Develop*'s engines special in issue *#136*.

The engine itself produces one set of code for desktop, tablet and mobile. There's an editor which is used to generate code using C++. It's fully integrated with XAML and Blend, and produces Visual Studio projects.

> ***"It's been an intensive and demanding road to bring this engine to market, but already we have seen hundreds of games published."***
> Myra Smallman, Rapid2D

The engine's user interface has been designed to make it easy for developers of any persuasion, and is broken down neatly into a series of boxes that allow you to edit layers, textures, objects and so on.

By linking into the Windows operating system, all the features of Windows 8 are available to users from within the engine.

The engine's ability to assign classes for any objects required by developers significantly speeds up development time, all the while allowing multiple developers to work on the same project, Fletcher offers.

Since September, there have been two later releases of the free version and the company has also developed a pro version, which is due for release via its website on April 22nd, 2013. The pro version has a one-click deployment into Windows 8 desktop, tablet and Windows 8 Phone.

RAPID BY NAME...

So far, Rapid2D doesn't have the cache of other indie engines. It's an engine in its infancy, still awaiting its tipping point. But when that point comes, it has the potential to be a reliable entry point for those looking to build and deploy apps for Windows systems.

What's more, impressed by this home-grown development solution, Microsoft backed a competition tasking entrants to make a number of apps for the Windows Store using the Rapid2D engine. More than 150 teams entered, which is some reflection on the rate of the engine's adaptation.

The decision to develop for Windows 8 is one that Fletcher feels has been hugely beneficial, and he's enthusiastic to see what developers can create using their engine.

"We love Windows 8. The live tiles and the ease of operation makes it a magical operating system to work with," he says. "We are extremely proud of the Rapid2D engine and want as many developers, both professional and novice, to discover all the benefits of using it. We are pleased that we dedicated to bring our engine to Windows 8. Microsoft has sold 40 million Windows 8 licences since October 26th, but that's just the beginning. There's an estimated 500 million Windows 7 PCs out there just waiting for Windows 8, and our engine." ■
www.rapid2d.com

David Fletcher (top) and Myra Smallman (bottom) wanted to create an engine suitable for novices and advanced users. Above are an assortment of gameplay images made using Rapid2D

HEARD ABOUT

John Broomhall talks to VGM founder Andrew Barnabas about a defining audio hit list

The VGM list
What is it? A hub for professionals across the games audio section
server.bobandbarn.com/mailman/listinfo/vgm

In the era of machines like the 3DO (main image) and a fledgling middleware ecosystem, Andrew Barnabas (above) established the VGM list

THE VGM LIST, or in full, the Videogame Musicians List, encompasses a veritable who's who of professional composers, audio directors, sound designers and dialogue specialists working in the now seriously-respected arena of audio for games.

Where do you turn to with the technical conundrum preventing you from progressing your project? Who do you ask about the audio software in which you're considering investing mega-bucks? Where can you chew the cud with like-minded audio practitioners about industry trends? In the first place, the answer for many is the VGM list .

IN THE BEGINNING

Andrew Barnabas explains how it all started: "When I began VGM in 1998, I was an in-house composer at Sony Cambridge – formerly Millennium Interactive. It may be hard to imagine now, but a lot of game audio folk were really quite hermit-like, so the original plan was simply to have a network of other composers I'd met in the eight years I'd been doing it at that point."

Back then, the first PlayStation was in full swing, and Barnabas and his team had 'pestered' management enough to hire their first audio programmer, when the catalyst for the VGM list emerged.

"Before going in-house in 1995, I worked pretty much exclusively with home computers, scoring Amiga and PC titles, and any conversion work to the SNES and MegaDrive were either handled elsewhere or I did it in-house – largely because dev kits were prohibitively expensive and it wasn't easy to integrate audio off-site. So it was a bit of a shock to find my first project was being developed on five platforms – four of which I'd never worked with before – PlayStation, Saturn, 3DO, PC and Mac. I was on my own. Middleware? Hell, the word didn't even exist. I already knew a few folk, so just rang round and asked people to help me figure it out. After a while I realised I was becoming something of a conduit. People knew me but didn't know each other, so I had people call me and say, for example: 'how do I do X and Y on the Sega Saturn?'. I didn't know myself, but knew a man who did – so I'd pick up 'other' phone to ask for input. Richard Jacques, for example, who was then working in-house at Sega. 'Rich, how do you do this?' etc. It got a bit silly."

A HIT LIST

After former industry publication *Computer Trade Weekly* published his call for interest, Barnabas purloined the services of Sony's IT to host a mailing list which quickly went bananas – with the SCEE IT manager later reporting that, at one point, 50 per cent of all email carousing their server was VGM-related.

> ***"The VGM list is the most helpful, informative, supportive professional community I have ever come across."***
>
> Tom Colvin, Ninja Theory

"I sheepishly apologised and cheekily suggested he get a faster server," confesses Barnabas.

Inevitably, in 2001, VGM's founder decided to host the 200-strong (and rapidly growing) list himself. The rest is game audio history, with the VGM list now boasting over 500 members across the globe – and still growing. The feedback speaks for itself.

"VGM is one of the few places with a true community of your peers, where you know that whether it's an answer to a specific technical question or just general conversation, the calibre of discussion will be stellar. I can always count on a top-notch exploration of whatever game audio issue is raised."
Brian Schmidt, Game Sound Con and all round game audio legend

"VGM is the most helpful, informative, supportive professional community I have ever come across. The most talented folk in the game audio industry willingly share their thoughts, tips and inspiration with an unwarranted freedom, and friendliness."
Tom Colvin, Audio Director, Ninja Theory

"VGM is sort of like a perpetual GDC audio meet-up. Everyone on the list is a professional, and has been down many roads before, so is able to contribute from an informed and unique place. And most importantly, that instinct to share and build is there as well – that by contributing, we all become a little richer. It's one of the few virtual communities that I look forward to hearing from every day."
Zak Belica, Audio Director, Ritual Ent.

"Quite simply, if other disciplines had anything like the open, vibrant resource of VGM, our industry would be light years ahead of where it currently is artistically, ethically and, in many ways, commercially."
Dan Bardino, Senior Manager, Creative Services Group, SCEE

I'm proud to say I was one of the first 15 members to sign up so have the utmost pleasure, on behalf of *Develop* magazine, in saying 'happy birthday, VGM list'. ■

John Broomhall is an independent audio director, consultant and content provider.
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www.johnbroomhall.co.uk

UNREAL DIARIES

Epic takes a look at the teams that gave it their all at the Make Something Unreal Live 2013 development contest

THE UNREAL DEVELOPMENT Kit, the free edition of Unreal Engine 3, continues to help aspiring games developers channel their creativity and accelerate their professional careers.

Four finalist games in the latest Make Something Unreal Live competition have been built around the theme 'Mendelian inheritance: genetics and genomics,' which was set by global charitable foundation the Wellcome Trust. These distinct projects are known as *Beings, Epigenesis, Mendel's Farm* and *Polymorph*.

Over the course of six months, student teams collaborated with Wellcome Trust scientists along with mentors from Climax Studios, Lucid Games, Ninja Theory and Splash Damage – all of whom played a pivotal role in establishing a premium quality bar and high production values, which teams are confident will enable them to deploy their PC games for commercial release.

"Taking part in Make Something Unreal Live 2013 has been one of the most challenging and rewarding experiences in my life," said Kairos Games' Kurtis Richards. "We've faced a great deal of trials and tribulations along the way but they have only brought us closer together as a team. We've sharpened and honed our skills and massively improved our workflow."

"The most important thing we learned was how important external playtesting is. This was the first thing Splash Damage told us to do after our initial meeting," commented Tobias Johansson of Dead Shark Triplepunch, creator of *Epigenesis*. "Working towards making a game that is entertaining and viable in today's market has been a challenge in itself, but a rewarding one. We now feel that we have the experience we need to set foot in the industry and start making games that players around the world will enjoy. We would not have gotten the chance to learn all of these things if it wasn't for MSUL."

Static Games' Ryan Pinfield added: "We have had a taste of what it's like to be an indie developer, and it has been both a tough and extremely rewarding experience. We have all learned so much throughout the competition, and our own skills such as programming and modelling have improved enormously. Our mentors have also been fantastic and really helped us improve *Mendel's Farm*."

"MSUL was the opportunity to demonstrate our passion for game creation. Facing this challenge among a four-person team full of diverse skills and cultures was an amazing experience," remarked Clément Marcou of *Beings* creator Team Summit. "Composed of two skilled Indian coders, a French artist recently converted to production management and an aspiring game designer newly arrived from Italy after three years of medicine, the team was sure to propose a unique project. Epic gave us the chance to bring it to life along an intense but interesting journey, exposing us to the professional side of the industry. It's been the perfect chance to gain experience and stand out from the crowd."

The MSUL UDK-made games (clockwise from top) Polymorph, Mendel's Farm, Epigenesis and Beings

Richards concluded of his team's commitment to making *Polymorph*, "Thanks to this competition my dream of running a successful indie company is quickly becoming a reality."

Experts within their respective fields who contributed in an advisory capacity to Make Something Unreal Live 2013 include Marsh Davies, Iain Dodgeon, Mike Gamble, Jon Hare, Matt Hill, Miles Jacobson, Dave Jones, Peter Molyneux, Simon Munk, Tom Reding, Clive Robert, Ella Romanos, Dr Jo Twist, Anton Westbergh, Phil Wright and Kostas Zarifis. ■

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MADE WITH MARMALADE

Taking Tap Paradise Cove and its treasure-hunting gameplay to Android let the new Marmalade Juice tool prove its potential to revolutionise porting from iOS

GAME: Tap Paradise Cove
DEVELOPER: Pocket Gems
PLATFORM: Android, iOS
WHY MARMALADE MATTERED: The new Marmalade Juice tech let Pocket Gems' port its iOS game without the need to rewrite source code
www.pocketgems.com

Pocket Gems' highly monetised iOS game, Tap Paradise Cove (main), shared a mutually beneficial relationship with Marmalade Juice, says Arjun Dayal (above)

GAME SOFTWARE COMPANY Marmalade is renowned for its cross-platform SDK, which has attracted a devoted following with its powerful single code base development offering.

But now the potential of the outfit's prolific technology has been taken to a new high with the recent unveiling of Marmalade Juice; a unique porting solution that redefines the process of reworking iOS games for other game platforms.

Before Marmalade Juice, porting from iOS demanded a convoluted process of brute-forcing the work, typically wholly rewriting a given game, meaning a huge sink of man-hours and money, laying the groundwork for increased effort in future game updates.

That has all changed with Marmalade Juice, which dismantles the barriers for iOS developers looking to target other ecosystems by allowing them to recompile Objective-C and native OS APIs, formerly only usable on iOS and Mac, within the Marmalade SDK.

Those applications can then be deployed directly to Android, as well as many other Marmalade-supported platforms including BlackBerry, Mac desktop, and selected smart TVs, using the original iOS code, rather than rewritten source code. Furthermore, optimisations for the target platforms can be made within the original Objective-C codebase, while source-level debugging with the Marmalade simulator is supported. That's a vital detail for games like Pocket Gems' *Tap Paradise Cove*, which stands as the first title to harness Marmalade Juice's power. Like all microtransaction-monetised games, *Tap Paradise Cove* needs to constantly update to continue to satisfy paying customers, and Marmalade Juice lets it do just that with a single effort.

> ***"The ability to manage a single code base and deploy to multiple platforms is very powerful. It saves engineering time."***
>
> Arjun Dayal, Pocket Gems

What's more, iOS API calls remained intact after the *Tap Paradise Cove* port, and Xcode UI files were able to adapt to address Android screen resolutions.

PARADISE FOUND

As it happens, the porting from iOS to Android of *Tap Paradise Cove* was handled by Marmalade itself, allowing the company to carry out its first 'live fire' use of Marmalade Juice. That process saw Marmalade applying the technology to a real published game, as such debugging both Marmalade Juice and *Tap Paradise Cove* simultaneously.

"Pocket Gems worked closely with the Marmalade team to build, test, and release the first version of *Tap Paradise Cove* on Google Play and the Amazon Appstore," explains Arjun Dayal, Pocket Gems Android product lead. "We were able to bring our highly successful iOS game to Android so that more of our fans could enjoy it. Pocket Gems was also able to improve the Marmalade Juice product by providing a highly monetising and complex code base as the first trial of the new technology."

And, with the porting completed with minimal effort, Dayal is clearly besotted with Marmalade Juice.

"The ability to manage a single code base and deploy to multiple platforms is very powerful," says Dayal. "It saves engineering time, debugging time, and allows developers to focus more on the overall player experience instead of bug and feature differences between the platforms. Cross-platform development is an important step for the industry."

Put like that, it's hard to imagine why a developer looking to port from iOS would consider any other approach than using Marmalade Juice.

GIVING IT SOME JUICE

For now, the tech's creator is handling porting via Marmalade Juice itself. However, as the year progresses, Marmalade Juice is going to be integrated into the main Marmalade SDK, and at that point developers that use the development platform will get the chance to exploit Marmalade Juice's power directly. Once that happens, Objective-C will effectively stand as an extra language that Marmalade supports for cross-platform development, on top of the existing trifecta of C++, HTML-5 and Lua. In short, Marmalade Juice has remapped the native iOS APIs from Objective-C to something Marmalade SDK 'understands', making it more powerful than ever.

"With our mantra of 'more platforms, more possibilities', we were frustrated by how many great games are locked exclusively into the iOS ecosystem," concludes Marmalade managing director and chief operating officer Harvey Elliott. "Historically, porting games from iOS to other platforms has involved a large amount of resource-heavy recoding from Objective-C to other languages. Marmalade Juice entirely removes this stage, making it more cost-effective for developers to reach even more consumers."

Marmalade is now working with a number of high-profile developers and IP owners to bring their existing iOS games to Android users.

To find out more about how Marmalade can help you or your studio, contact **hello@marmalademail.com** to discuss availability and licensing. ■
www.madewithmarmalade.com

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RECRUITER HOT SEAT

DICE is in need of new talent. Head of recruitment **Fredrik Johnsson** explains why now is the right time to join its ranks

What differentiates DICE from other development studios?
DICE is a strong institution in the Swedish gaming industry with more than 20 years of experience creating games appealing to a big audience; the main titles being the entire *Battlefield* series, with *Battlefield 3* and its five comprehensive DLCs as the latest instalment. The game has sold more than 18 million copies and has won an extensive amount of awards (130-plus), topped by three BAFTAs from 2011: Audio Achievement, Online Multiplayer, as well as the GAME Award of 2011.

Our employees are passionate gamers who strive for innovation and extraordinary quality; this is reflected in these awards.

Being located on the waterfront of Stockholm, the location of the office is definitely one of the best in Sweden's capital, with a stunning view over the city centre. While also hosting the team behind the Frostbite engine, the office also supports several EA studios around the world and hence creates the opportunity to be involved in several different game franchises across the company.

How many staff are you currently looking to take on?
DICE is currently looking to hire an additional 60 people to the games development team and the Frostbite team. A significant amount of these positions are to be filled by talented C++ programmers, but there are also several positions within art as well as additional designers, QA and marketing.

At times we're also able to offer internships within different areas and as of now we're looking for someone who can do their Master thesis within VR Technology in Games. More info can be found at www.dice.se where we always update our current open roles.

What perks or privileges are available to staff working at your development studio?
Being part of DICE means being part of a studio that strives to build excellent games using the latest technology – that is being developed within the studio. It also means being part of a very dedicated group of people from which you can learn a lot. Gathering the very best people in the world from various fields and relocating them to us brings us that benefit, and I think many of our employees or former employees would mention DICE as a very creative and inspiring environment that helped them taking it to the next step of their respectively career.

At DICE, we have an extensive package including benefits such as a solid pension plan, a five-plus week vacation annually and a generous bonus system.

What should aspiring developers do with their CV to get to an interview?
You need to show what you are capable of creating. When screening people, you can only evaluate what you can access. Put your code or portfolio online or send it to us. We receive a lot of applications and to somehow stand out and be seen is not

BIO
Name: Fredrik Johnsson
Title: Head of Recruitment
www.dice.se

GET THAT JOB

Development specialists offer advice on how you can bag that career leap

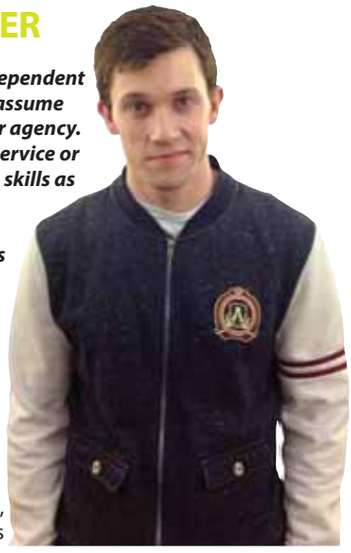
THIS MONTH: PR MANAGER

"Apply directly to developers; the more independent the better. If you lack technical skills don't assume you are better off applying to a publisher or agency. It is just as easy to add value to a product, service or game with business knowledge and people skills as it is with code or artwork.

"In-house at a developer you are more likely stand out, creating and fulfilling roles that simply wouldn't be open elsewhere.

"Market on a shoestring. Websites like Pixel Prospector are fantastic resources, with lessons that can be applied directly to even the most established devs on your first day in the job. Demonstrate your ability to create something from nothing.

"Finally, be enthusiastic, focused and responsible."



Nick Tannahill,
PR Manager, Firefly Studios

SIX-SECOND STUDIO SPOTLIGHT

- Steve Gaynor started the Fullbright Company out of a desire to "get back to that small-team feeling" he'd felt before
- Joining him from 2K Marin are Karla Zimonja, Johnnemann Nordhagen and Kate Craig
- Its focus is on immersive first-person games centred on story, atmosphere and exploration
- Its first title, *Gone Home*, is a non-violent game about exploring a family's house to find out what happened to them
- It's using Unity with its sights on PC, Mac and Linux
- "Our desire is for *Gone Home* to do well enough that it sustains us to make another game," says Gaynor **www.gonehomegame.com**

always easy. The best advice though is to create content. Develop something that is beneficial to your area of expertise. Content is king.

> ***"Being part of DICE means being part of a studio that strives to build excellent games using the latest technology."***
>
> Fredrik Johnsson, DICE

Who is the best interviewee you have ever had and how did they impress you?
I would say candidates in general that prove themselves very dedicated in the specific role they are interviewed for and can back it up with the appropriate experience. Then, of course, candidates with a lot of experience, telling us about their journey within the industry are always inspiring to listen to. We have many of those here at DICE among our senior employees and it is always a joy to see a young, dedicated person join the company and years later become a part of the senior leadership team.

And who was the worst?
Not to mention anyone specific, but to come unprepared to an interview is never a good move. Interviewing candidates with an obvious hangover kind of makes you think about how interested they really are in the opportunity. Talking very negatively about their former employer can sometimes backfire also.

What advice would you give for a successful interview?
The utmost important thing to point out is that every candidate should arrive prepared in any ways possible, whether it's by playing *Battlefield 3*, reading up on DICE and our games or by being confident in talking about the role that they're being interviewed for and what's led to the fact that they're being interviewed. It's as beneficial to the interviewer as it is to the interviewee.

If your studio has recruited talent internationally, what was the process like?
We do relocate talent on a regular basis. It is pretty much the same kind of process as for locally based candidates. Our testing and interviews are not separating candidates in any way based on where they are from.

I think it is important to consider all things related to a move to a new country. In our experience, a relocated employee is much more likely to feel at home in Sweden if the whole family found its place – meaning finding a good housing solution, daycare and so on. It is easy to sometimes only look at the job itself, but we always encourage candidates to consider the opportunity carefully with their family.

NEW STUDIO ALERT!

SHARKFISH STUDIOS HAS been tinkering away in secret since it was founded in January last year.

Creating games has always been an ambition for its two-man development team Matti Anttonen (*left*) and Veli-Pekka Eloranta (*right*), and at the end of 2011 they quit talking about it and started to make it happen.

"We are developing games for gamers and that can be seen in the way we work," CEO Anttonen tells *Develop*. "We build a prototype of our games early on to be able to get it tested with players right away. Direct feedback is the best way to get to know if our game mechanics need tweaking. This fits perfectly in our company, as we are using agile methods for development and I myself have a strong background in usability."

Anttonen handles the creative decisions at Sharkfish, while Veli-Pekka is its technical expert.

Formerly, the duo were both researchers at Tampere University of Technology. The studio's name is a tribute to one of their former colleagues who passed away. His last name translates as 'Sharkfish' from Finnish. Sharkfish's first title, *Wordmare*, will be released in April for iOS. After that, it plans to begin prototyping its next project and has ambitions to grow its numbers down the line.

"[Our size] forces us to focus on the core idea of the game, and for me it is the ideal way to work. When the idea of the game is fresh, solid and fun to play, you can easily build the game around it."

www.sharkfishstudios.com

MOVERS AND SHAKERS

This month: Reflections, Climax, Activision, Mind Candy and Marmalade

REFLECTIONS

Newcastle-based studio Ubisoft Reflections has appointed **PAULINE JACQUEY** as its new managing director.

Jacquey has been at the company since 1997, working on titles such as *GRAW* and the mobile versions of *Assassin's Creed* and *Prince of Persia*. As managing director, she will be developing long-term strategy, levelling up Reflections' creative and technical skill sets, and sharing best practices, from HR to creation processes, at the studio.

"The UK have Damien Hirst, and Peter Molyneux and PJ Harvey and Ridley Scott. Not all countries can compete with brits' level of invention and great impact on worldwide pop culture. Reflections is a beautiful studio with a unique 28-year legacy, and I am happy and proud to be part of its future," Jacquey told *Develop*.

"Having been at Ubisoft for so long, I have really strong relationships throughout the network, so I can make sure Reflections is right at the heart of our global development network. I also want to raise the profile of the studio globally and attract the best possible talent from around the world. We already have 15 nationalities present in the studio, but I want to beat Massive, who I believe has twice that number."

Her previous roles within the company include managing director at Ubisoft India, Shanghai, Montreal and Paris over the last 16 years.

Ubisoft Reflections is currently involved in open world title *Watch Dogs* and unannounced projects.

CLIMAX

Portsmouth developer Climax has upped its headcount with three new junior hires. **LAUREN ORRELLS** (*pictured*) joins as a concept and UI artist. Orrells has a background in graphic design and concept art, and an MA in Digital Character Animation, She broke into the industry creating animation layouts for Traveller's Tales.

"It's fantastic to have the chance to develop my artistic style and creativity whilst working alongside other amazingly talented artists," said Orrells.

Climex has also welcomed **DANIEL HITCHEN** and **PAWEL MARGACZ** as a character artist and artist respectively.

Hitching is competent in both character creation and rigging expertise, and will be contributing to its upcoming social games.

After graduating in 2011, Margacz joined Climax as a junior artist and worked on the development of its socially connected brain training game, *Smart As*, for PS Vita. Margacz went on to train and specialise further in visual effects, before freelancing for a short time, and has now returned to Climax.

ACTIVISION

PAUL COLLINS has joined Activision Blizzard as senior talent acquisition specialist to assist its European publishing business.

"I'm hugely excited to be joining such a talented team here at Activision Blizzard," said Collins. "You only have to look at the performance in 2012 and the quality of the franchises to realise how successful this organisation is and how highly skilled the team are here. I'm delighted to get this opportunity to play my part in identifying and recruiting the very best talent for Activision Blizzard across Europe."

Collins was previously at THQ, where he led the now-defunct publisher's global recruitment team.

Activision VP of human resources for Europe, Colin Daly added: "I am delighted to be adding a great talent like Paul to our team, and I am also conscious of the added bonus of keeping that talent in our industry."

MIND CANDY

Moshi Monsters studio Mind Candy has appointed **PENNY HANDSCOMB** as its chief people officer, as the developer looks to recruitment many more hands. Handscomb will lead the company's HR and talent management, and will be central to cultivating the company's culture as it expands globally.

"Mind Candy is a growing global brand that's maintaining the creativity and energy of a small company – and I'm thrilled to join the team," said Handscomb. "I am looking forward to recruiting top-notch talent for roles in London and San Francisco."

Michael Acton Smith, CEO and founder of Mind Candy, added: "We're delighted to have Penny on board. Mind Candy is growing rapidly and we're always looking for amazing people to join the team."

MARMALADE

MARK BACKLER has been hired as lead game designer at Marmalade Game Studio, the new in-house games division of the SDK maker. He will work across a variety of different IPs, both internal and external.

"It's great to be making the move to mobile development," said Backler. "I'm really enjoying the fast pace and new challenges that it presents."

Mark has previously worked at Lionhead, Kuju Nik Nak and EA.

Marmalade creative director Mike Barwise added: "Mark joins us at an exciting time – we have several exciting games to build and his thorough approach to design will help us execute these to maximum quality."

Service & Tech Recruiter Hot Seat

Allegorithmic's COO **Nicolas Liatti** talks about openings at the tools maker specialising in 3D visuals

What makes Allegorithmic different from other 3D tools companies?
Allegorithmic's middleware technology, Substance, is becoming the de facto standard of parametric texturing technology and is widely adopted by the industry as a pivotal content creation solution.

Most of other 3D companies are focused on DCC tools, engines, etc. Whereas we are focused on texturing. And our technology and own texturing format called Substance is now the leading format in terms of texturing in the world.

What benefits do you offer?
A really cool work environment and the possibility to work on an amazing technology. As we provide software and technology for video games development studios and chip manufacturers. Working here makes it possible to be in contact with people who are really playing a role in the video games industry. We also accept staff working remotely from home.

What disciplines are you in need of?
We are looking for talented senior developers for our middleware and software to help us work on our own tools, middleware and engine. People applying can be based anywhere in the world and work from home, as we are just looking for the most talented possible people.

How have your recruitment needs changed in recent times?
Our recruitment needs changed due to two parameters: on the one hand, Substance has been integrated in much software, such as 3ds Max, Maya and Unity, and new integrations are planned for this year, so we need people to help us achieving those projects. On the other hand, we are adapting our technology for the next generation and it requires senior developers to do so.

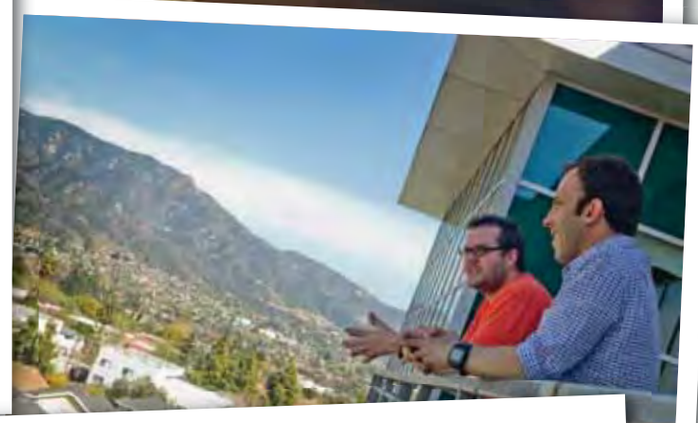
What opportunities are there for career progression?
Employees at Allegorithmic have lots of responsibilities, and we provide new responsibilities each time we feel there is a need. We also have several offices around the world – Los Angeles, Paris, Clermont-Ferrand and Shanghai – so people can move if they wish.

Why should people choose a career in tools development?
We do not work only on tools at Allegorithmic. We developed our own technology, which brought the development of tools. At Allegorithmic, people work on many different projects; they are not stuck into one team with only one project.
www.allegorithmic.com

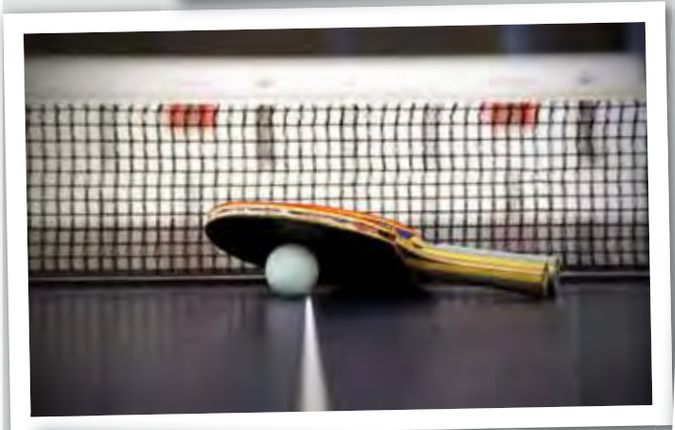
Insomniac Games

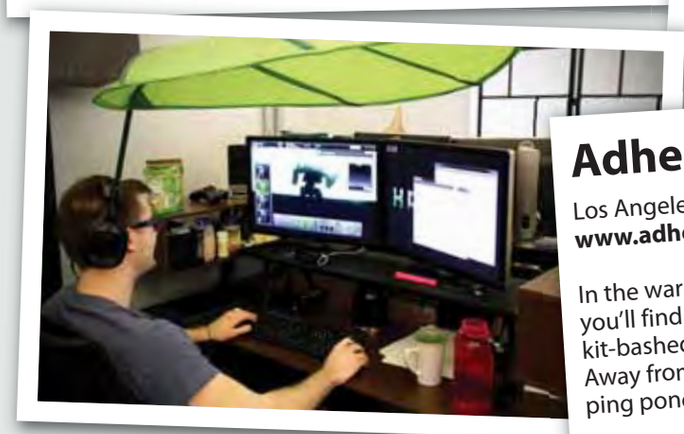
Burbank, California, USA
www.insomniacgames.com

With entrancing views across the valley, Insomniac's Burbank home is an attractive setting. Inside, *Ratchet & Clank* figurines peer out of glass cases in the softly lit atrium, while its open-plan spaces encourage conversation.



THIS IS **WHERE WE WORK**





Adhesive Games

Los Angeles, California, USA
www.adhesivegames.com

In the war rooms of *Hawken* creator Adhesive, you'll find all manner of battle-ready toys, from kit-bashed mechs to LEGO Star Destroyers. Away from the battlefield, these devs enjoy ping pong and a spot of deskside 'liming'.

SERVICES SPOTLIGHT

This month: **The Audio Guys**

THE AUDIO GUYS have been helping to complete the aural experience of games for some 35 years.

It offers services such as games audio advice and recommendations for both original and custom sound design, and is ready to produce everything from FMV soundtracks to game audio systems design, all recorded to precise specifications.

It is also ready to give comprehensive advice on dialogue, casting, recording and directing.

The company's audio director Dan Gardner says: "If you ever become concerned or confused about the audio development on your project, then just give us a call; we can help put your mind at rest and help get you to where you want to be audio-wise."

Titles that it has contributed to include *Forza Motorsport 4*, *Ridge Racer: Unbounded*, *Backbreaker Vengeance*, *Kinect Disneyland Adventures* and *Sonic & All-Stars Racing Transformed*.

On *Forza 4*, it created engine sounds from raw recordings and integrated them into the game, and tested, tweaked and refined in-game engine sound effect systems. On *Sonic & All-Stars Racing Transformed*, it created the full audio design, working on the game for over 18 months, which involved creating and integrating all the sound effects managing all the UK and French, Italian, German and Spanish (FIGS) voice assets. While on the *Overlord* games, it also helped cast, direct and record all the voiceovers, created sound effects, transferred them all into the game using custom tools and arranged and processed all FIGS voices for the games.

> ***If you ever become confused about the audio development on your project, we can help.***
>
> Dan Gardner, The Audio Guys

"We have a proven track record on a wide range of platforms and titles, from iOS and Facebook games to huge

Forza 4's distinctive engine sounds were created from raw recordings, by Dan Gardner (right) and his team

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triple-A titles," says Dan Gardner, audio director at The Audio Guys, when asked why developers should outsource their audio needs. "All the core team here at The Audio Guys have also worked in-house for many years in audio lead and director positions on major titles, as well as having worked as independent outsourcers for over six years. And so, between us, we have a massive amount of game audio experience, amounting to over 40 years combined. This makes us a very low-risk option for developers, as we feel we know what is required and how to get there, no matter how small or large the size or scope of the project is."

> ***"Between us, we have a massive amount of game audio experience, amounting to over 40 years combined."***
>
> Dan Gardner, The Audio Guys

For the immediate future, the goal for Gardner and his team is to successfully continue to provide original and creative audio solutions to games developers, and all within budget.

"As we are a team, we are confident that we can provide flexibility on resourcing, ramping up and down headcount as and when needed," Gardner says in closing. "And, of course, as we are not in-house, we can tailor the time requirement to suit each project and each client."

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TOOLS SPOTLIGHT

This month: **Mixamo**

MIXAMO'S GOAL IS to democratise 3D character art. Stefano Corazza and Nazim Kareemi founded the company in 2008. Mixamo is home to a team of young artists that are passionate about digital art, and specifically about 3D character creation and animation.

"We are a close group of ambitious, quality-oriented friends, determined to be a force for good and promote 3D art," Mixamo CEO and co-founder Corazza tells *Develop*.

It's flagship package, Mixamo Pro, provides professional artists and developers – be they independent, small or large studios – with access to high quality 3D character creation and animation technology for free, or for a reasonably low-cost.

"We are proud to offer a suite of services that are extremely affordable and accessible," Corazza says. "There is no need to spend hours, days or months learning how to use our technology. Whether artists and developers need to create a character with Fuse or pick one from our collection, choose and apply one of our thousands of triple-A animations to one of their own models – even rig their characters with our auto-rigger – processes are very simple, straightforward and quick.

"Quality is very important to our team," Corazza adds. "This is why we provide triple-A characters and animations on our site. We also know that a lot of our users are games developers, so all our motions are game-ready and fully compatible with a huge variety of 3D software packages and games engines, including Autodesk 3ds Max, Maya, Mudbox, Unreal Engine, Unity, as well as Modo, Houdini, Blender, ZBrush, Cinema 4D and more.

> ***"Offering access to high quality 3D character models and animation in such an affordable and easy way is unheard of in the industry."***
>
> Stefano Corazza, Mixamo

Mixamo's animation technology putting a goblin in motion

"Additionally, all content from Mixamo is royalty-free, so developers can use the characters and motions they get from us in any of their games. There's no hidden fee nonsense."

Mixamo has been used by small and mid-sized games studios for films, indie games, mobile, pre-visualisation and advertising. Some of its users include larger studios and projects, including the likes of Telltale's *Jurassic Park: The Game*, Trigger and Sony's mobile apps for *Karate Kid*, *Green Hornet* and *The Amazing Spider-Man*.

Mixamo recently launched Fuse, a data-driven tool for 3D character creation, which enables user to browse through a vast number of mesh and texture choices to swiftly find customised, rigged characters for use. It works by piecing together body parts from different characters. The tools maker has also begun offering a new payment plan for its Pro version.

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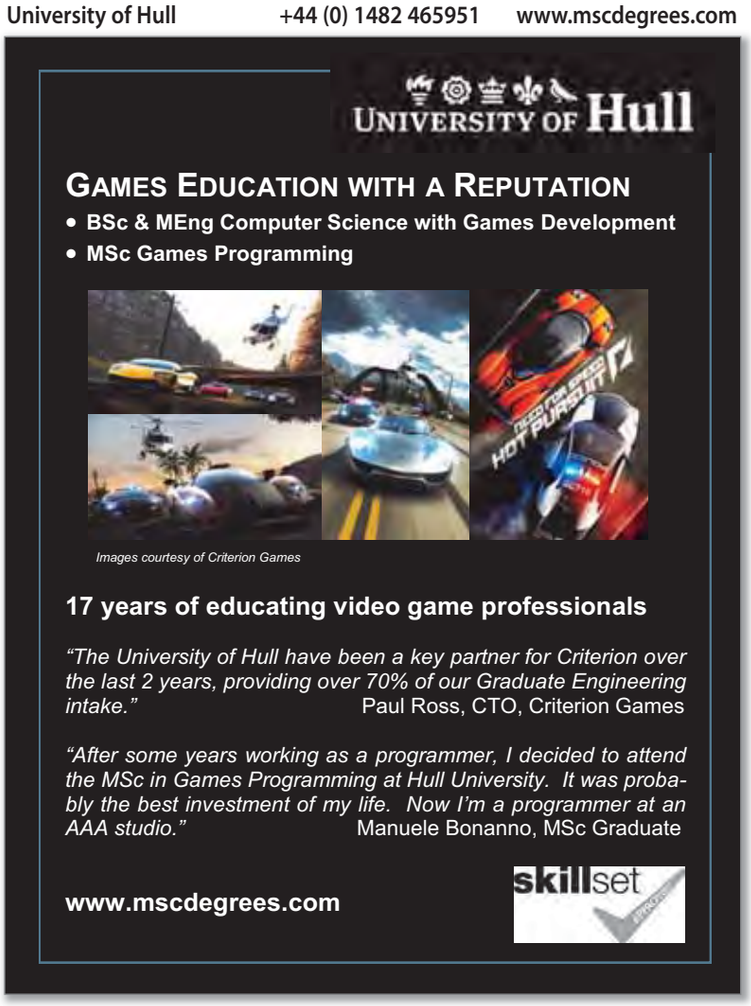
UNIVERSITY OF Hull
GAMES EDUCATION WITH A REPUTATION
• BSc & MEng Computer Science with Games Development
• MSc Games Programming
Images courtesy of Criterion Games
17 years of educating video game professionals
"The University of Hull have been a key partner for Criterion over the last 2 years, providing over 70% of our Graduate Engineering intake." Paul Ross, CTO, Criterion Games
"After some years working as a programmer, I decided to attend the MSc in Games Programming at Hull University. It was probably the best investment of my life. Now I'm a programmer at an AAA studio." Manuele Bonanno, MSc Graduate
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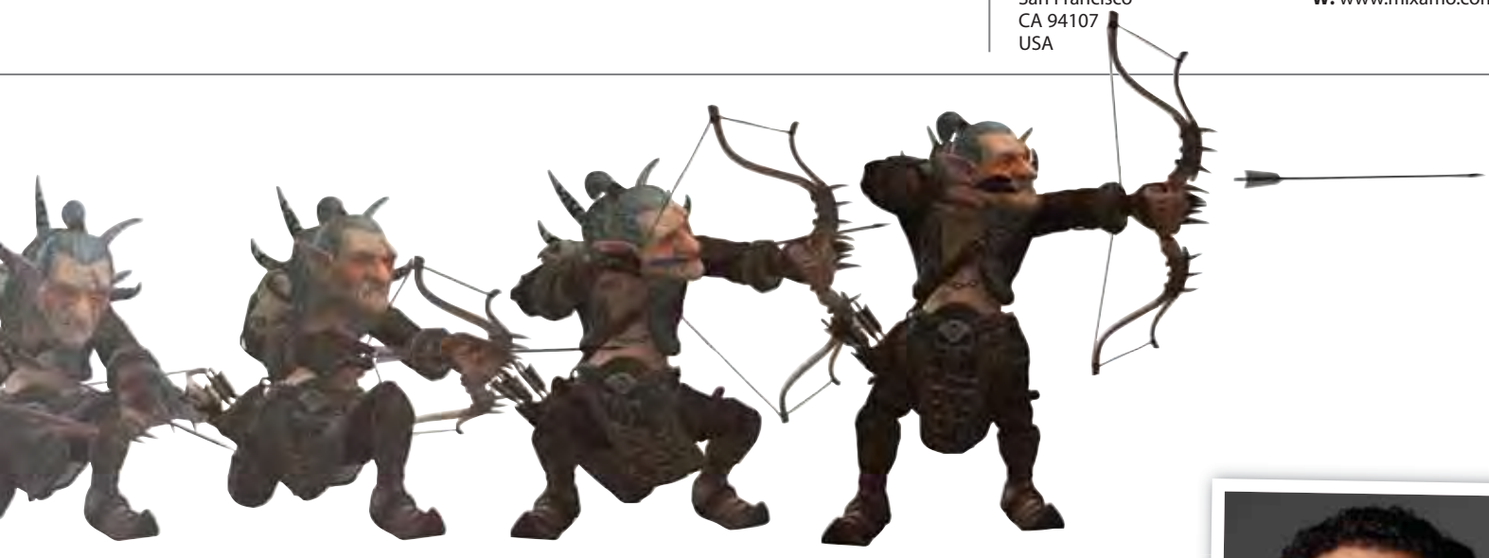
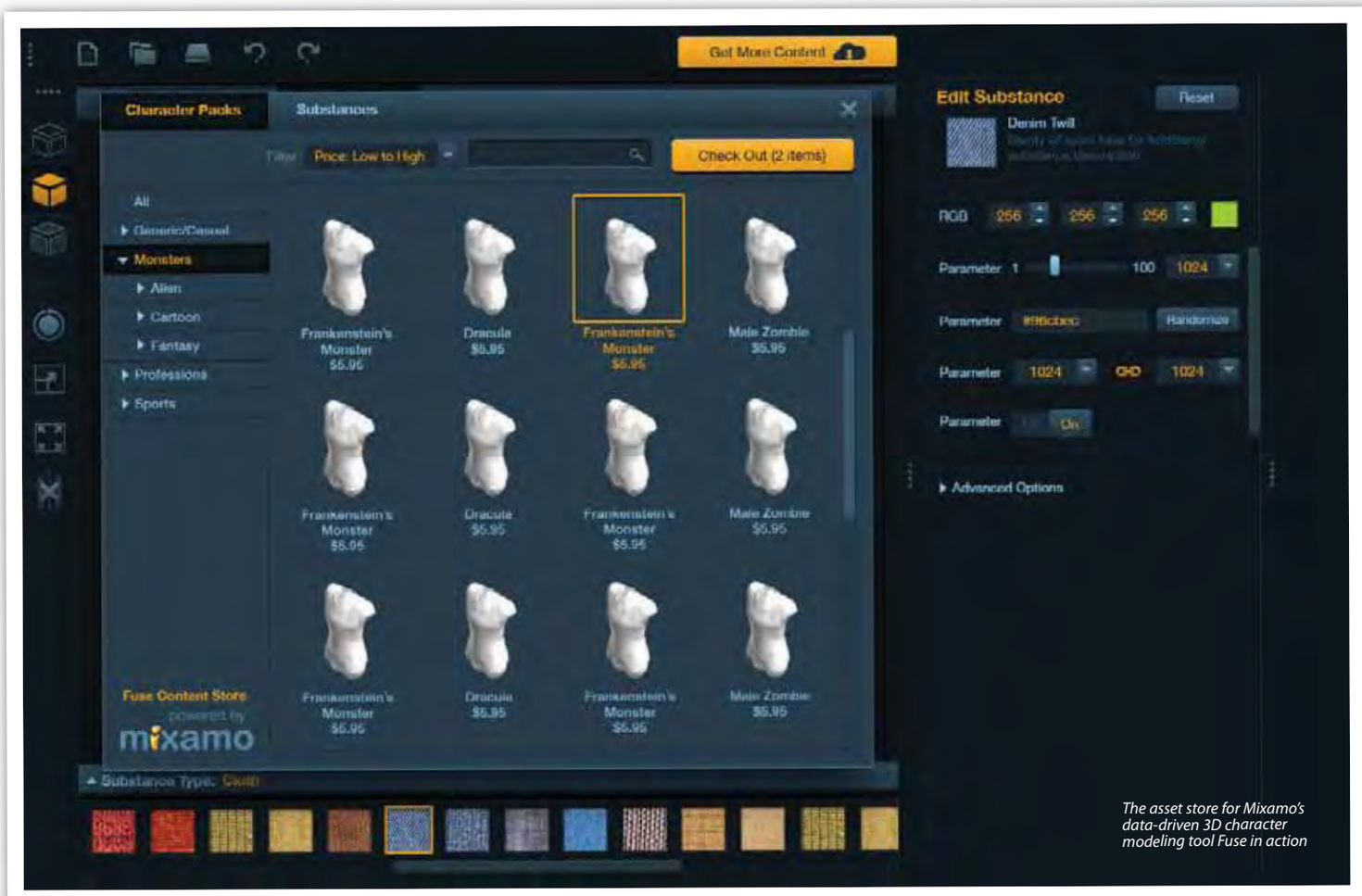


Mixamo All-Access gives users a one-time yearly licence that grants them unlimited access to all content and services. Artists and developers get access to all its 3D models, animations and Auto-Rigging technology for a full year. Files are available for download in all the formats developers need.

For Unity developers, the company has also launched the Mixamo-powered Unlimited+ Mecanim Animation Store, which provides unlimited access for one year to all the Mixamo assets available on the Unity Asset Store. This includes 1500-plus customisable animations that can be previewed and edited in the Unity Editor and that are fully compatible with Mecanim.

Mixamo's website is due to be overhauled in soon, and Corazza tells us that there are other projects planning too, among them, improved features for its services, closer partnerships with other companies in the industry, and integration and support for more 3D packages and games engines.

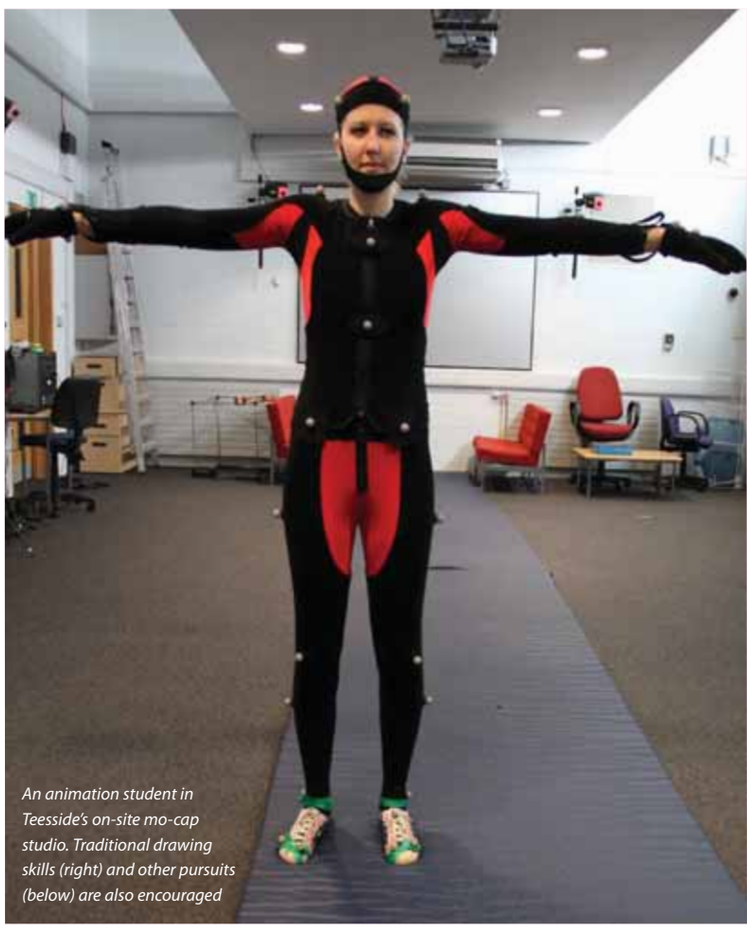
"Offering unprecedented access to high quality 3D character models and animation in such an affordable, quick and easy way is unheard of in the industry," he explains. "Mixamo saves time, efforts, money, and provides triple-A content, so why would any developer not give it a try?"



The asset store for Mixamo's data-driven 3D character modeling tool Fuse in action

TRAINING SPOTLIGHT

This month: **Teesside University**



An animation student in Teesside's on-site mo-cap studio. Traditional drawing skills (right) and other pursuits (below) are also encouraged

TEESSIDE UNIVERSITY HAS been providing games and animation courses for over ten years, and its reputation for producing well-prepared graduates speaks for itself.

Teesside was one of the first universities in the world to begin running games courses, senior lecturer in computer games development Gabrielle Kent (*far right*) tells us. In fact, its BSc (Hons) Computer Games Programming course was first accredited by Creative Skillset in 2007, and several of its other courses have also received official recognition.

In the first year, designers, animators and artists are given a good grounding across all areas of development and introduced to teamwork. From the second year, its courses are targeted to specific skills. Students also work on team-based development projects headed up by student leads, who are selected on performance and managed by a member of staff in a producer role. These projects simulate studio structure, roles, practices and milestones, which Kent believes makes her graduates stronger recruits for the industry at large.

Tech-wise, Teesside has three dedicated games labs that each contain high-end machines with dual screen setups and a comprehensive range of industry standard software. It has a motion capture laboratory equipped with Gypsy exoskeleton hardware and two optical and infrared camera systems, as well as a fully equipped post-production suite and sound stage.

> ***"By choosing to study games at Teesside, you will have access to a wealth of knowledge and experience."***
>
> Gabrielle Kent, Teesside University

Additionally, it has a dedicated art space and wet room, light boxes, graphics tablets and Cintiq displays, a games lounge and meeting space, all to aid staff and students.

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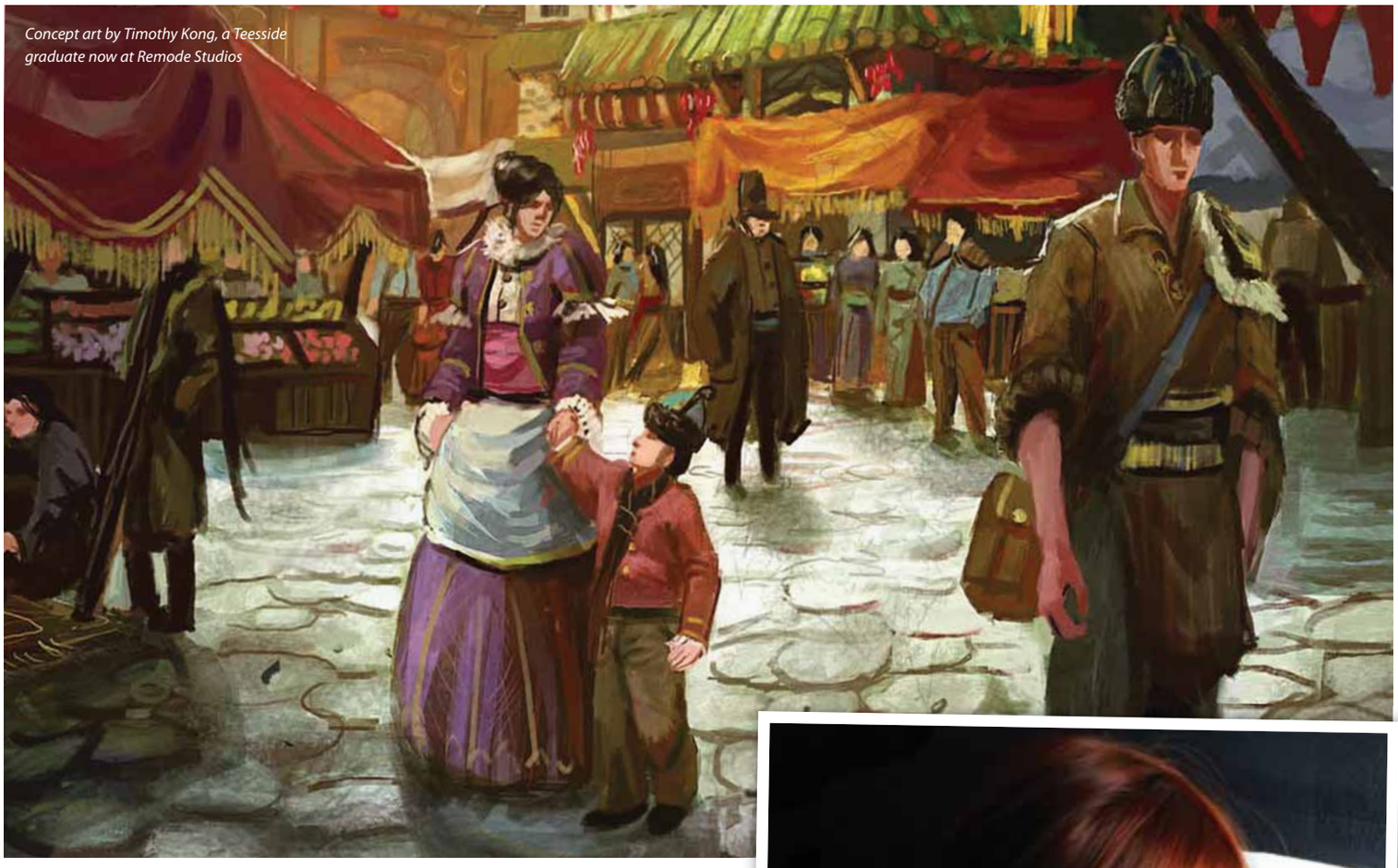
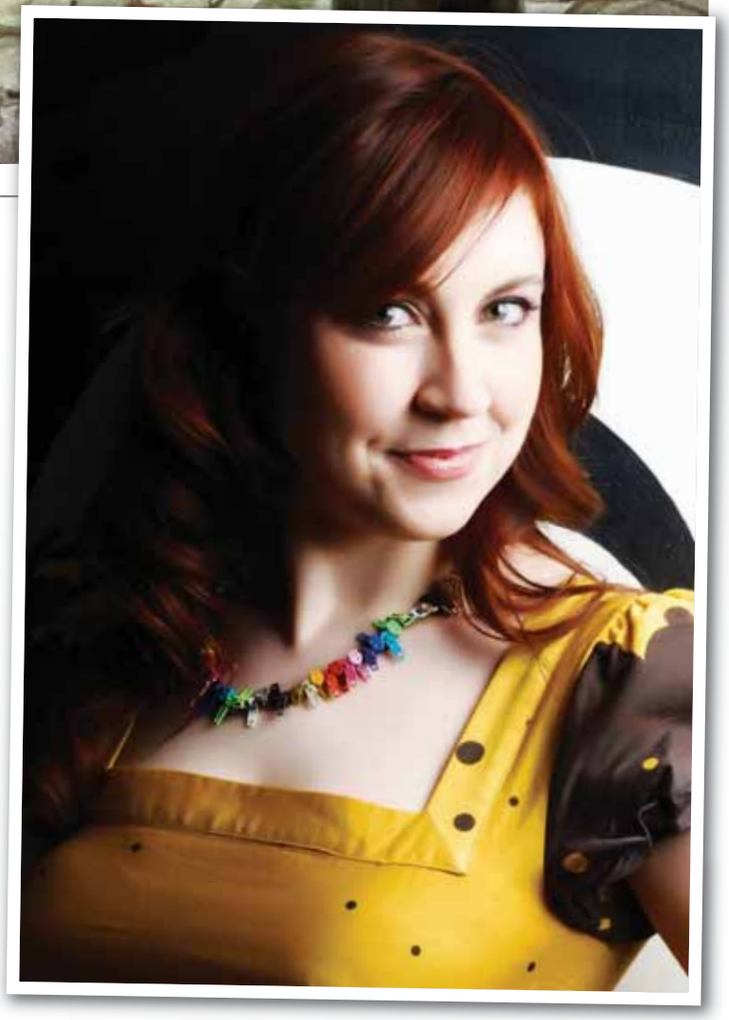


Concept art by Timothy Kong, a Teesside graduate now at Remode Studios



As well as handling its courses, Kent also curates Animex, the university's annual games and animation festival.

Through the annual Animex festival it has attracted guest speakers from world-class games studios, including Epic, Naughty Dog, Valve, Sony Santa Monica, Lionhead and Guerrilla Games to name but a few.

"Many of our speakers consult with us on keeping our course content fresh and in line with potential industry developments," says Kent. "We also have a close relationship with Ubisoft Reflections. As our biggest recruiter they take a strong interest in the course, attend student presentations and provide guest lecturers."

Alumni of Teesside's computing department have set up casual games companies or gone on to a variety of studios worldwide, including Irrational Games, BioWare, Ubisoft, Lionhead, Ninja Theory, Blitz Games, Eutechnyx, Media Molecule, Rare, Frontier, Sony, Rebellion, Rockstar North, Traveller's Tales and many more.

Kent and her colleagues intend to keep on consulting with the industry to ensure that they remain at the top of their game. They have also begun developing a Masters programme and will be introducing a new course focusing on the practical, theoretical and business skills needed for the development of casual games.

Kent says students should study at Teesside for its experienced staff, course content, state-of-the-art labs, the student experience and its close links with the games industry.

"In the 90s, games studios had to spend a lot of time training new staff in-house. Through courses such as ours, graduates are entering the industry with these skills already in place and the only in-house coaching needed tends to be in the studio's own tools and methods," Kent says.

"Teesside University has a national and international reputation as a leading university for games degrees, and our graduates are working at some of the biggest studios in the world. By choosing to study games at Teesside, you will have access to a wealth of knowledge and experience, as well as world-class facilities, which will provide you with everything you need to launch a successful career in this extraordinary industry."

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THE FAQ PAGE: LEE SCHUNEMAN

Develop grills respected figures from the global games industry

Who are you and what do you do?
Lee Schuneman, studio head at Lift London, which is a new Microsoft team based in Soho.

What are you working on right now?
Right now Lift London is assembling an incredible team and prototyping lots of concepts – all with the aim to further 'lift' the reach of Xbox beyond the console in order to build an exciting future for connected entertainment across Europe and beyond.

What was the first video game or product that you ever worked on in the industry?
The first thing I worked on was as a game designer at Rare designing the levels for *Donkey Kong Land 2* on the Game Boy. The level editor was running on a SGI machine; a little overkill for a Game Boy title.

What was the first video game you ever played, and did you enjoy it?
The first was probably something in the seaside arcades like *Scramble*, but the main one I remember the most – and that influenced me the most – was *Manic Miner* on the Spectrum. That's the game that started me on my journey into the industry.

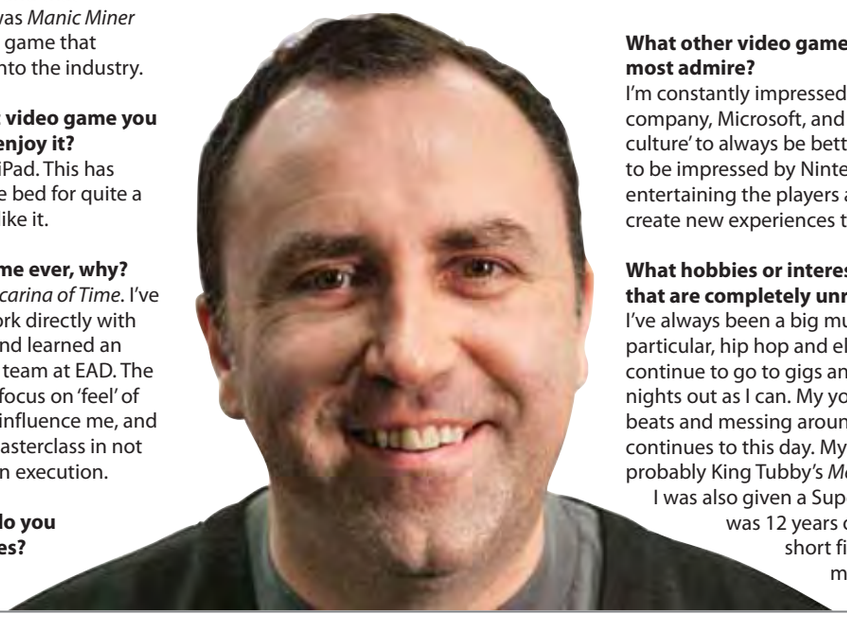
What was the most recent video game you ever played, and did you enjoy it?
I keep playing *Ski Safari* on iPad. This has been my 'go to' game before bed for quite a while now and, yes, I really like it.

What is your favourite game ever, why?
Probably *Legend of Zelda: Ocarina of Time*. I've had the good fortune to work directly with Miyamoto-san in the past and learned an incredible amount from his team at EAD. The attention to detail and real focus on 'feel' of the mechanics continue to influence me, and *Ocarina*, in particular, is a masterclass in not just game design, but also in execution.

How many hours a week do you spend playing video games?
I am generally working around ten-to-12 hours a day, so finding game time is always a challenge. Probably only a few hours a week.

What area of the industry needs more 'investment' in your view?
We are a people-driven industry and the ongoing investment in young talent and female talent are the two areas where I feel that, as an industry, we can do more. At Lift London, we are bringing into our studio the best raw, young, talented teams and giving them support to unleash their creativity and potential to build their own new businesses and gaming experiences. We're also being very deliberate in hiring a mix of male and female staff.

What do you enjoy about the video games industry today?
The constant change. This industry evolves rapidly, whether it's business models, distribution methods, game mechanics, art styles or content direction.



Lee Schuneman's very first game project was Donkey Kong Land 2 on Game Boy

What disappoints you about the video games industry today?
Nothing. It continues to surprise me, to be honest. It's always reinventing itself.

Of all the games you have worked on, which has been your favourite to work on?
I always enjoy the next one. Each new experience has something new to learn and I value what I'm about to learn from building something new.

> ***"We are a people-driven industry and the ongoing investment in young talent and female talent are the two areas where I feel that, as an industry, we can do more."***

What other video games developer do you most admire?
I'm constantly impressed by my own company, Microsoft, and its 'challenge culture' to always be better. Plus, I continue to be impressed by Nintendo's focus on entertaining the players and their drive to create new experiences that delight.

What hobbies or interests do you have that are completely unrelated to games?
I've always been a big music fan – in particular, hip hop and electronic music. I do continue to go to gigs and have as many nights out as I can. My youth spent making beats and messing around with vinyl continues to this day. My favourite album is probably King Tubby's *Meets Rockers Uptown*. I was also given a Super 8 camera when I was 12 years old and made many short films and stop-motion animation.

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Image shows Crytek's free-to-play FPS, Warface.

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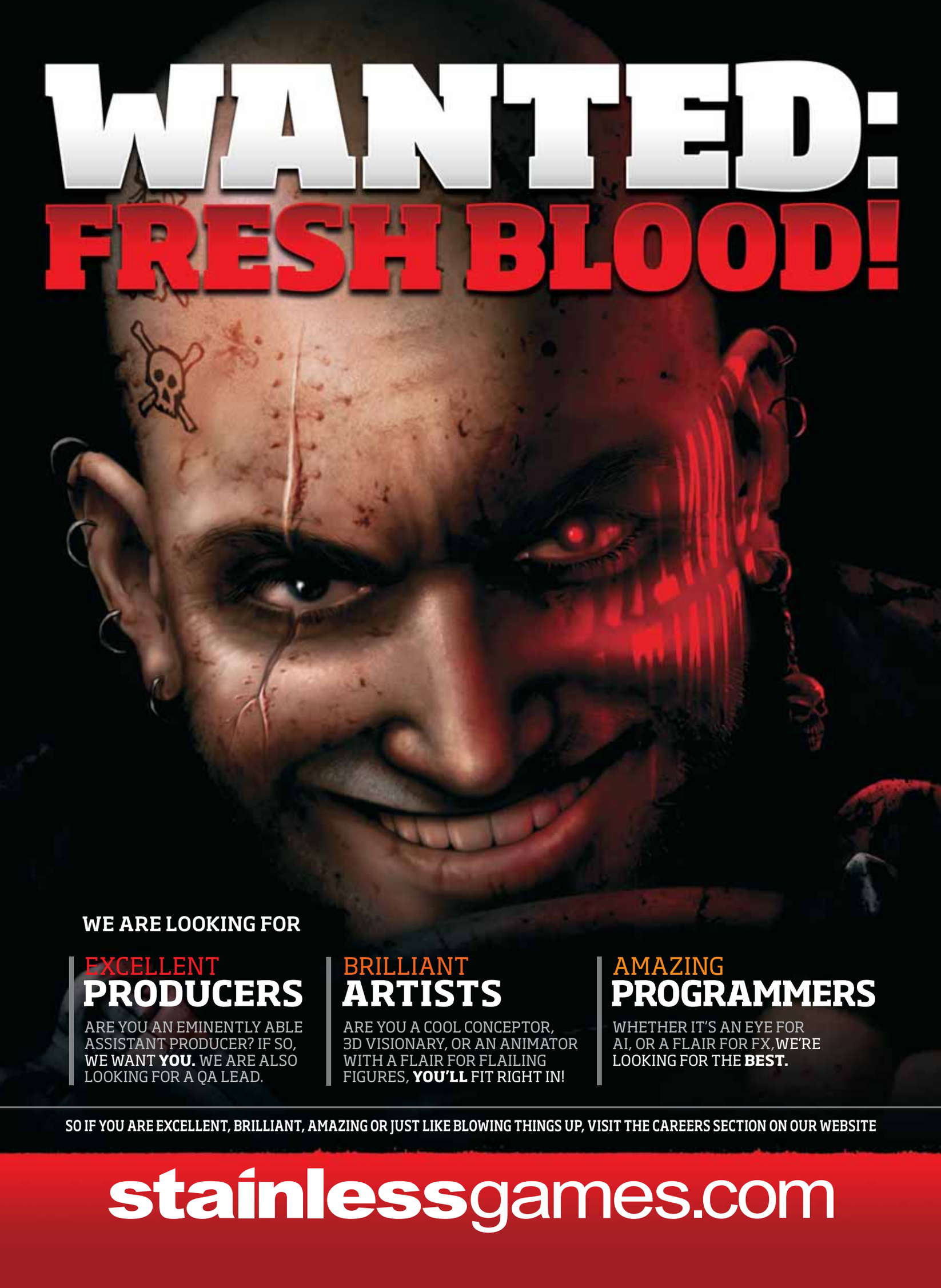
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